Appendix A

Locational Maps and Notice of Availability

A-1 Locational Maps

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

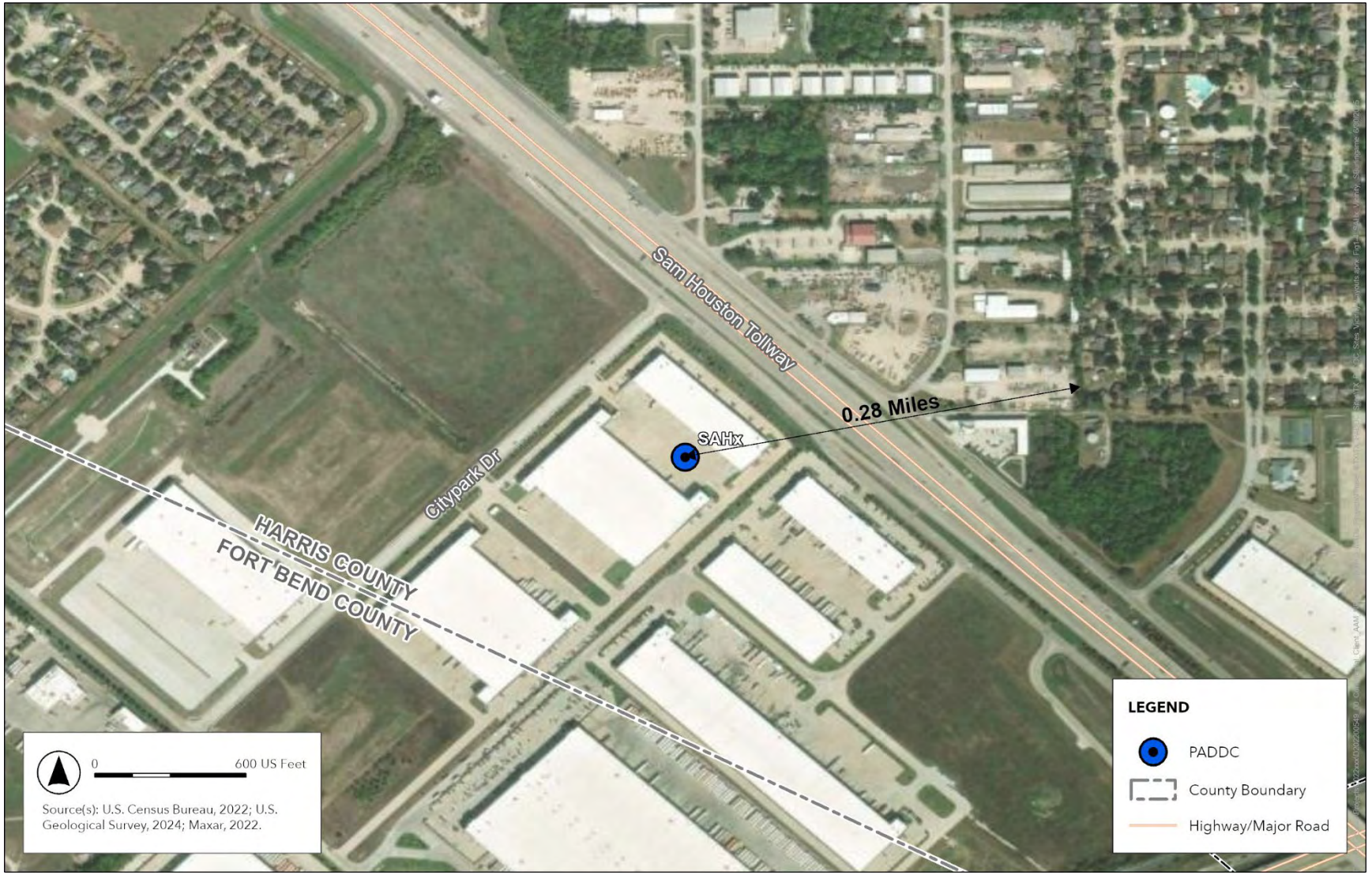
Figure A-1

Close-up View of the SAH1 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

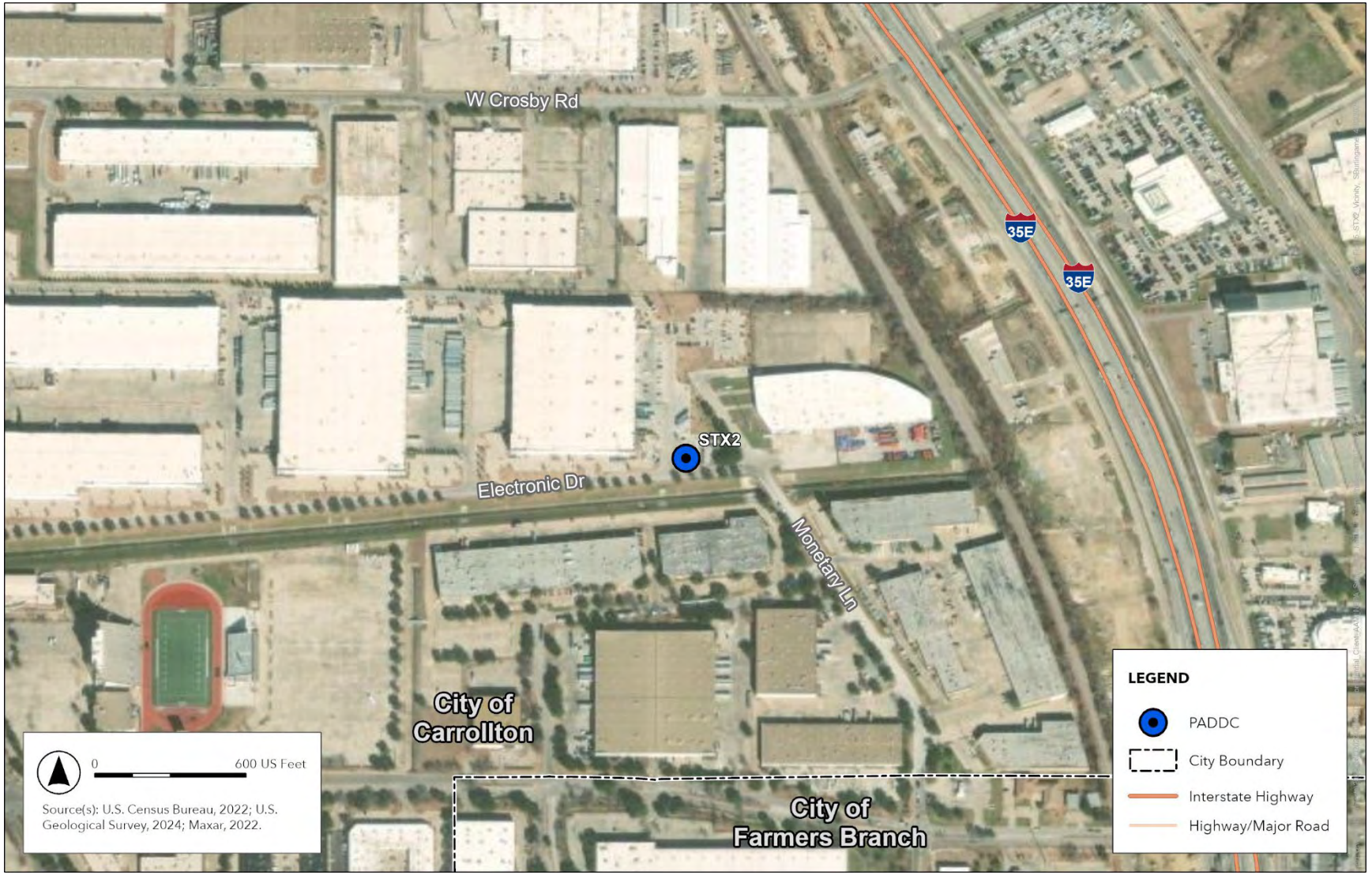
Figure A-2

Close-up View of the SAT1x PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

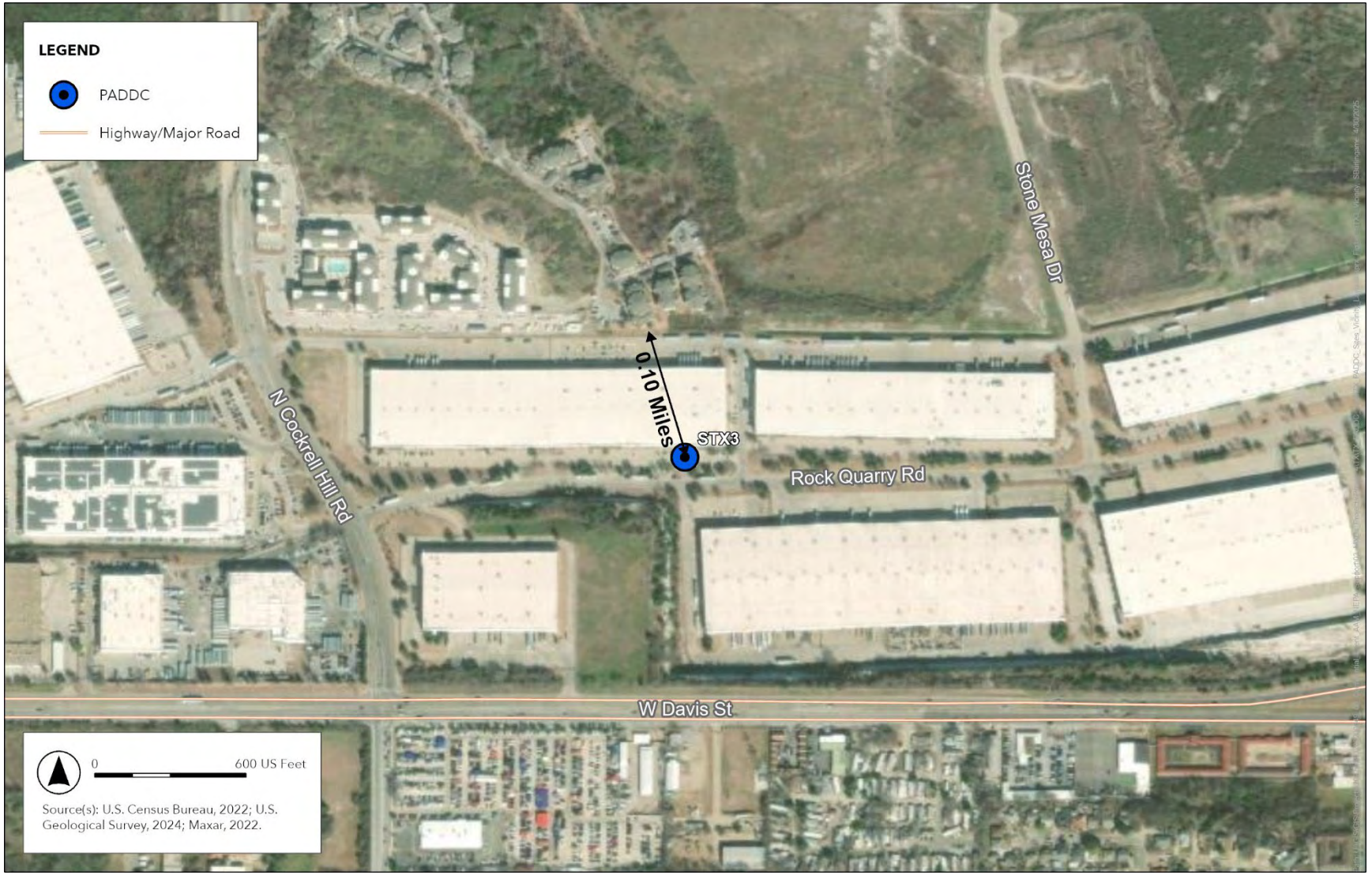
Figure A-3
Close-up View of the SAHx PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-4

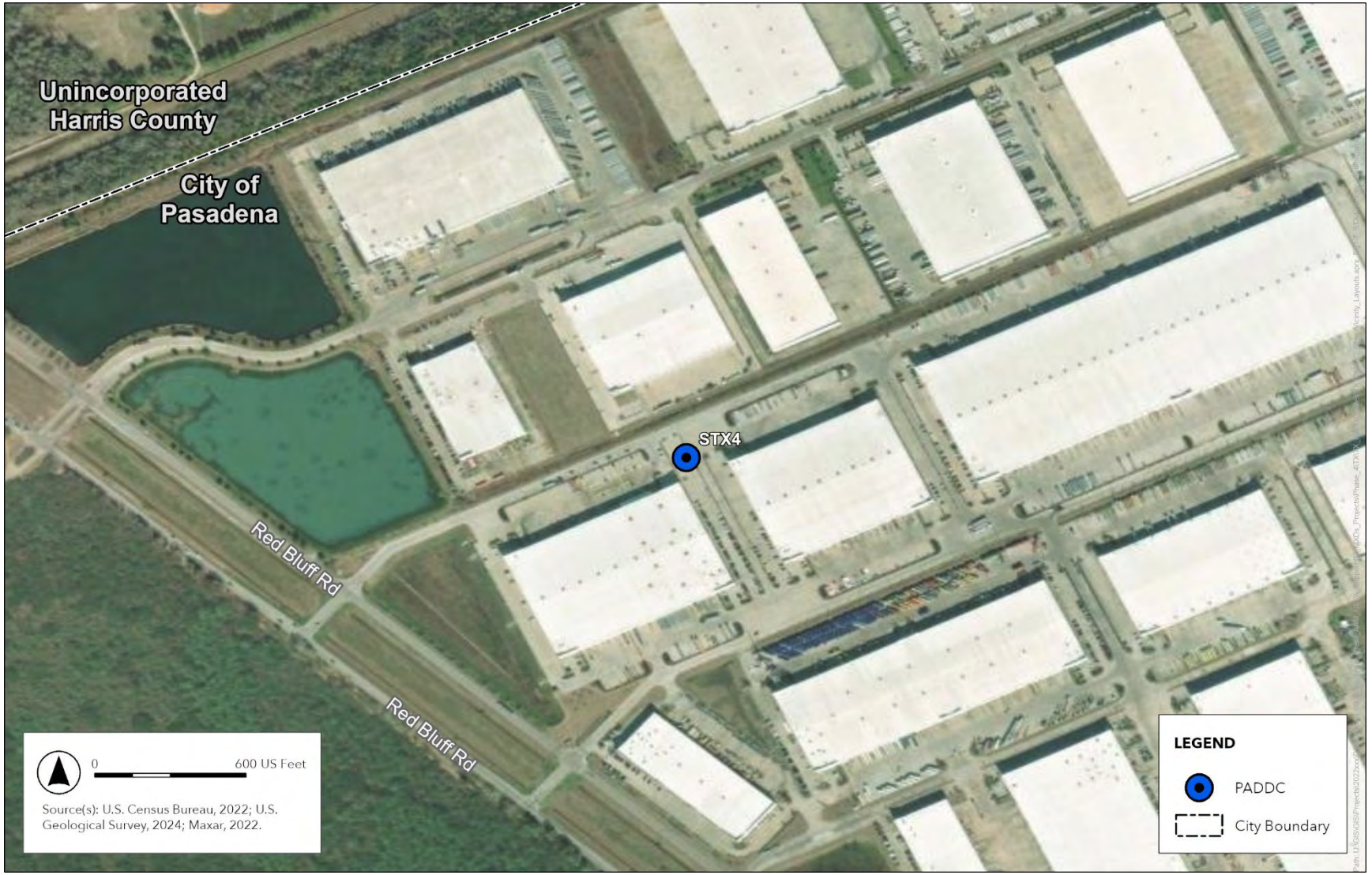
Close-up View of the STX2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-5

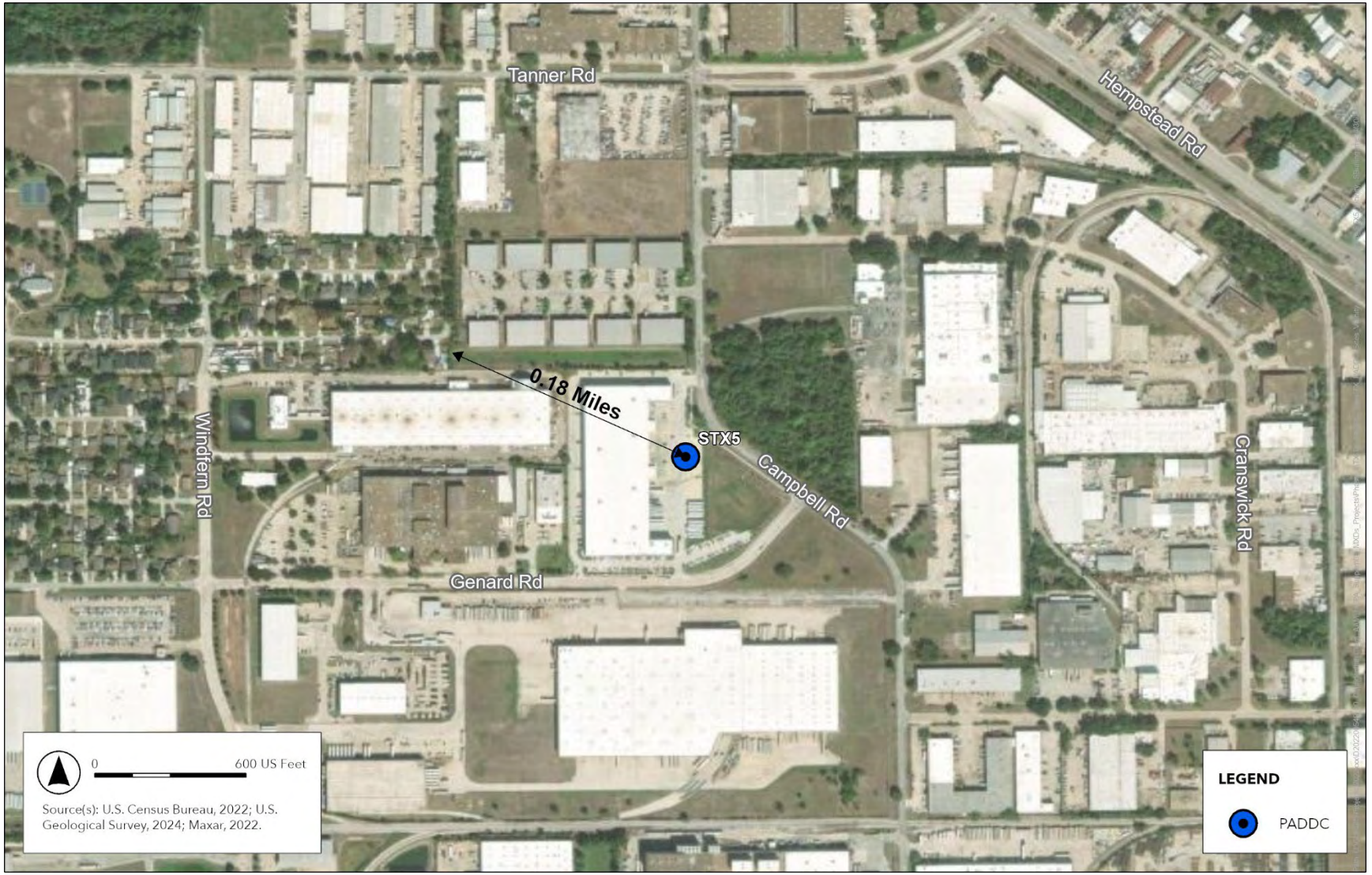
Close-up View of the STX3 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-6

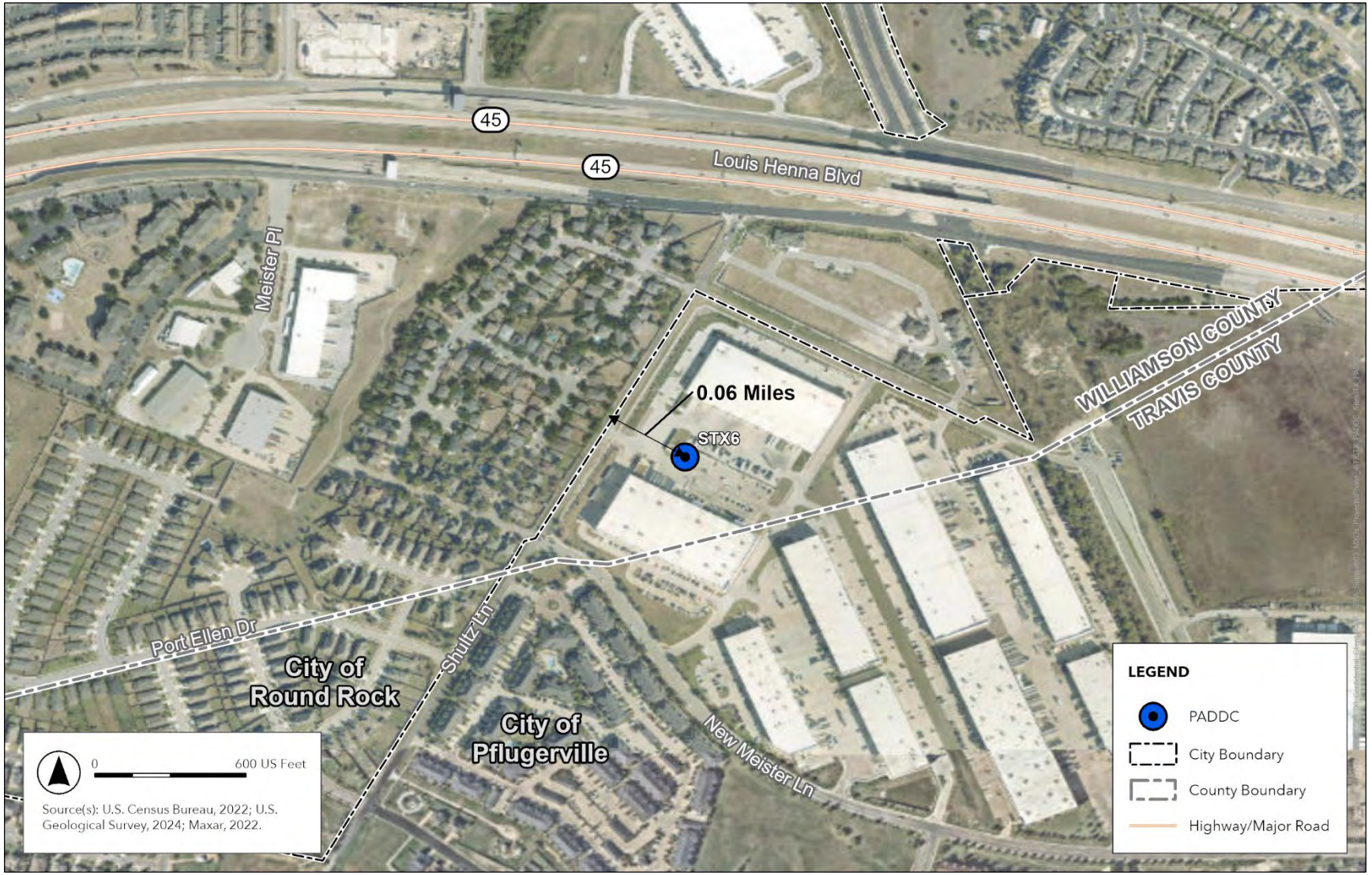
Close-up View of the STX4 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-7

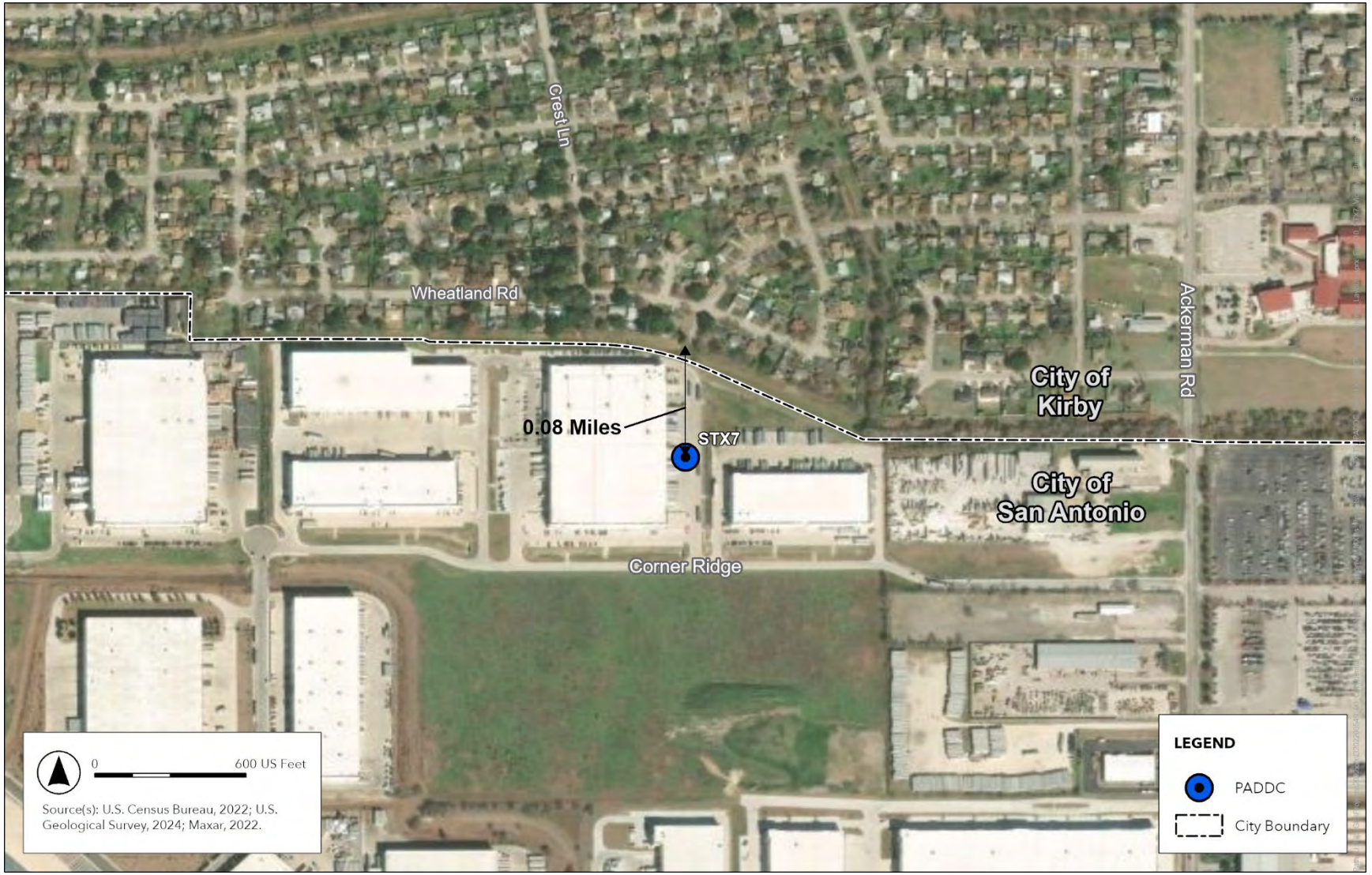
Close-up View of the STX5 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-8

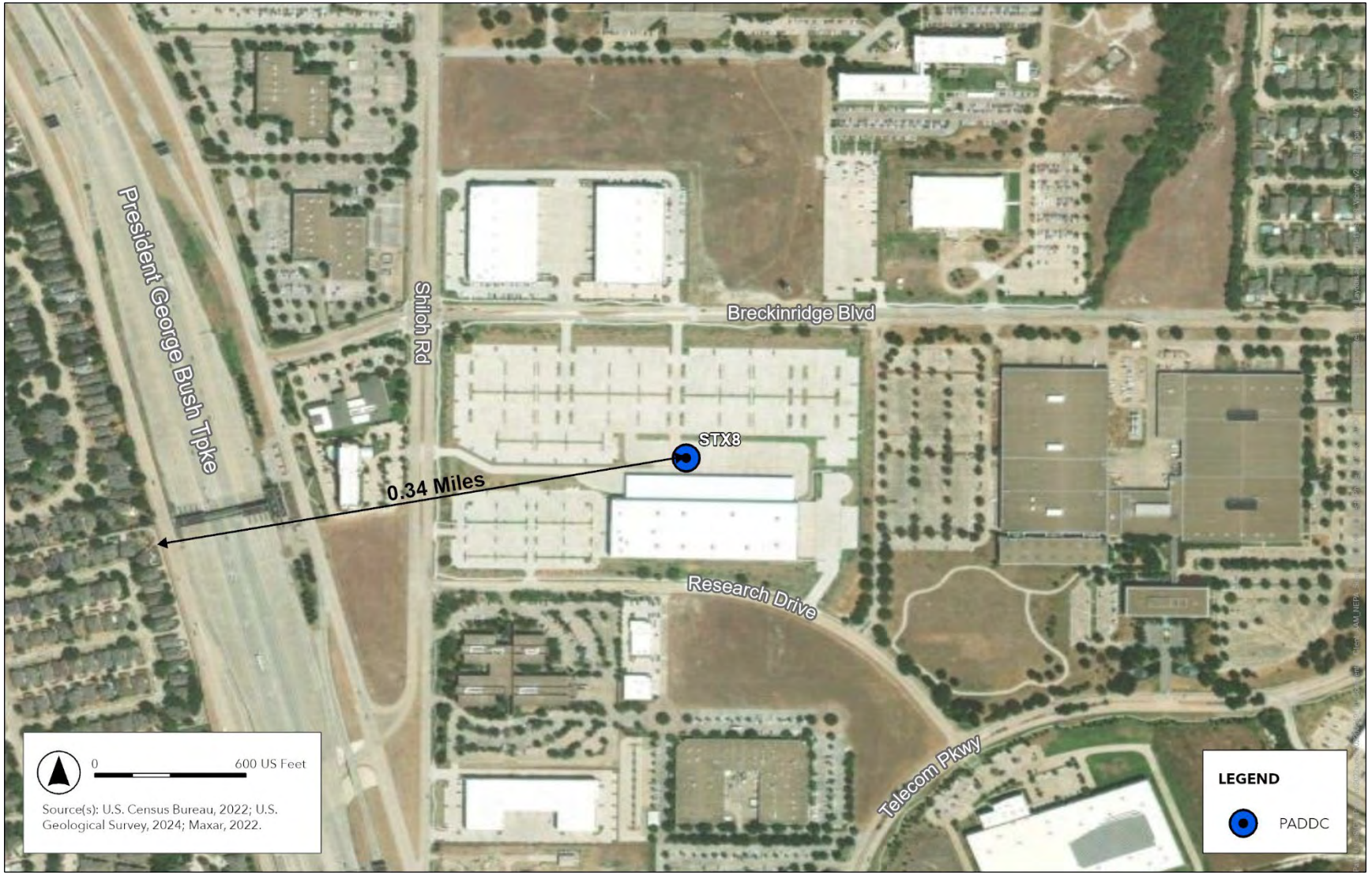
Close-up View of the STX6 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-9

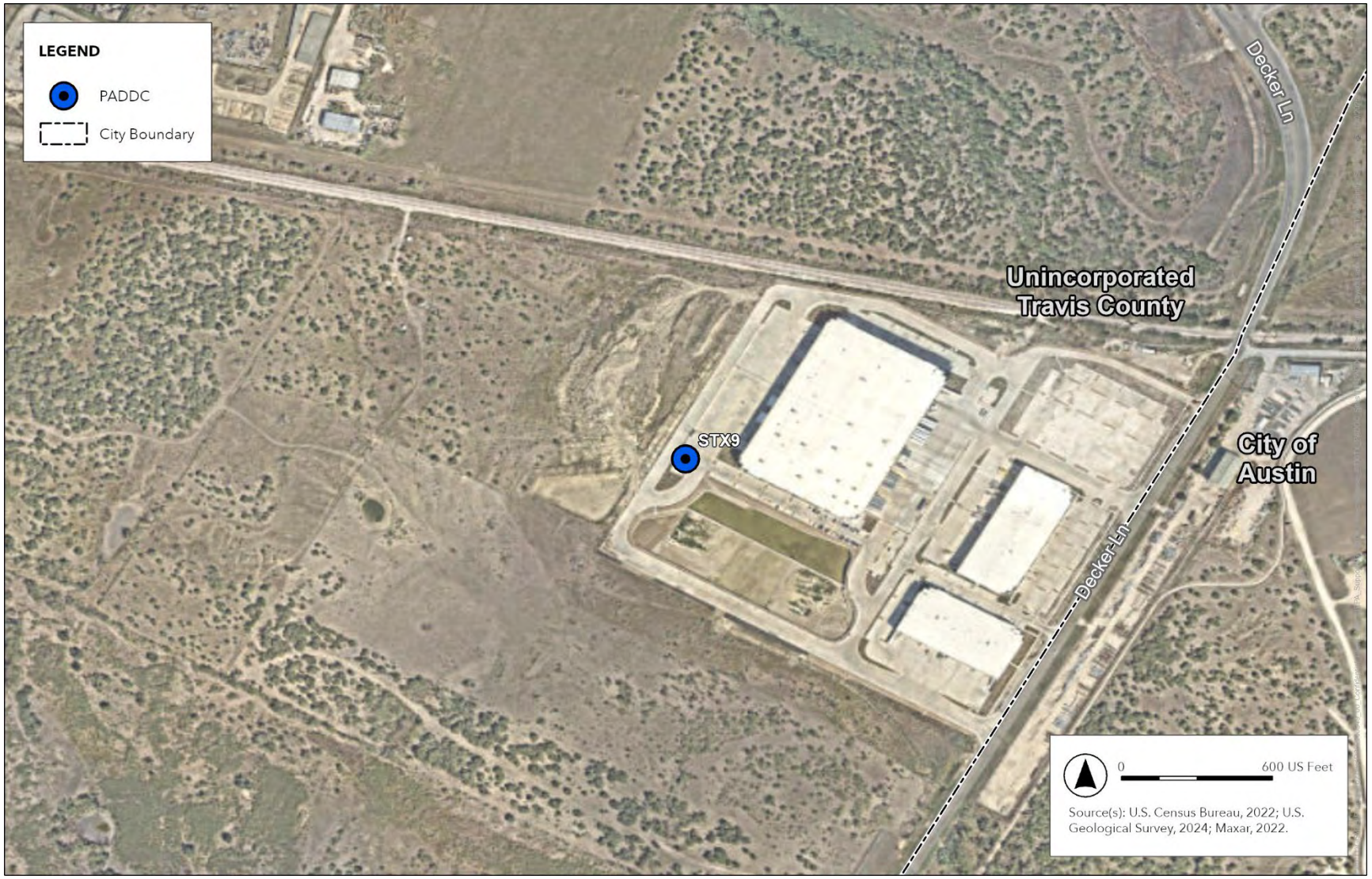
Close-up View of the STX7 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-10

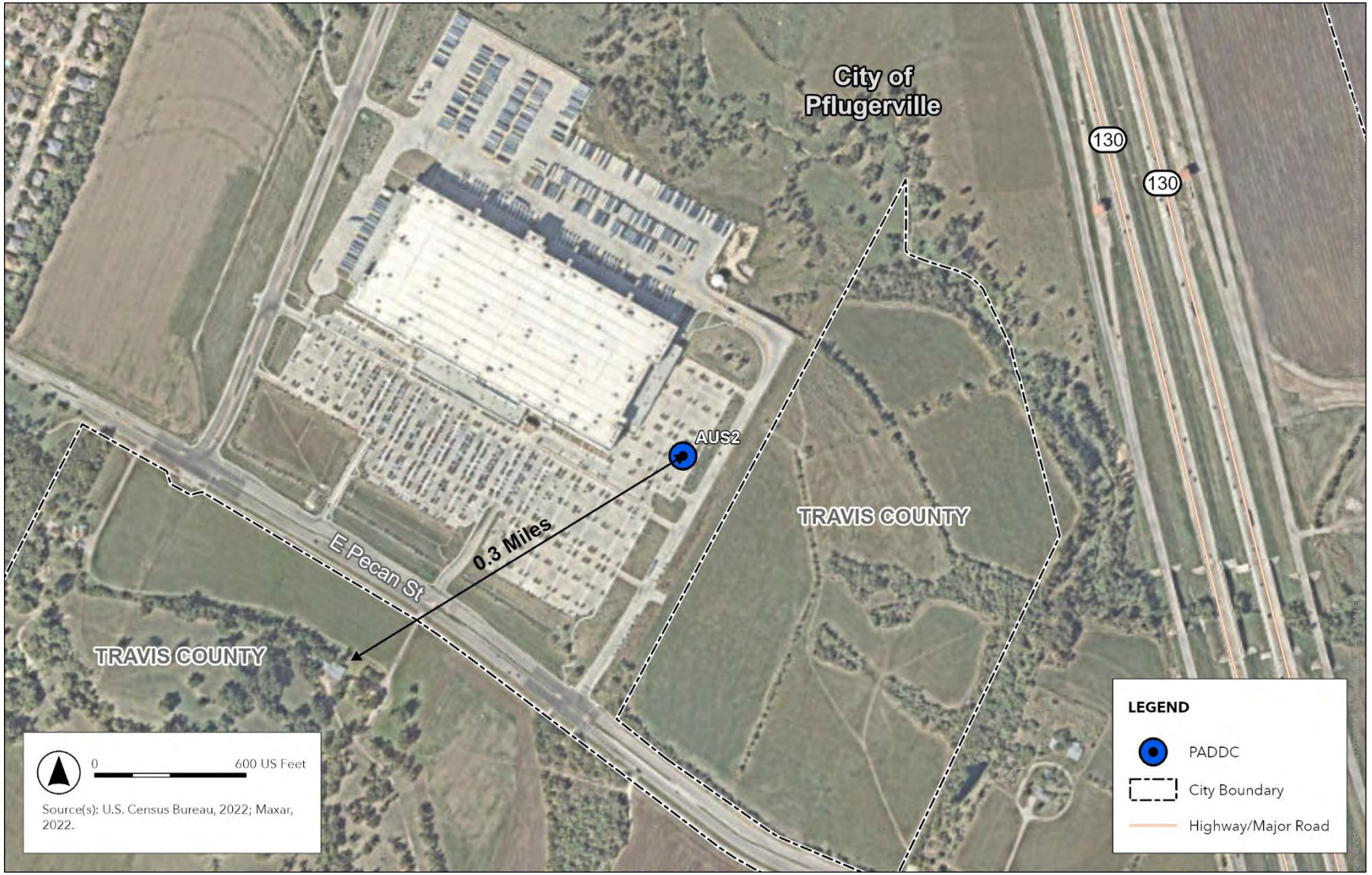
Close-up View of the STX8 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-11

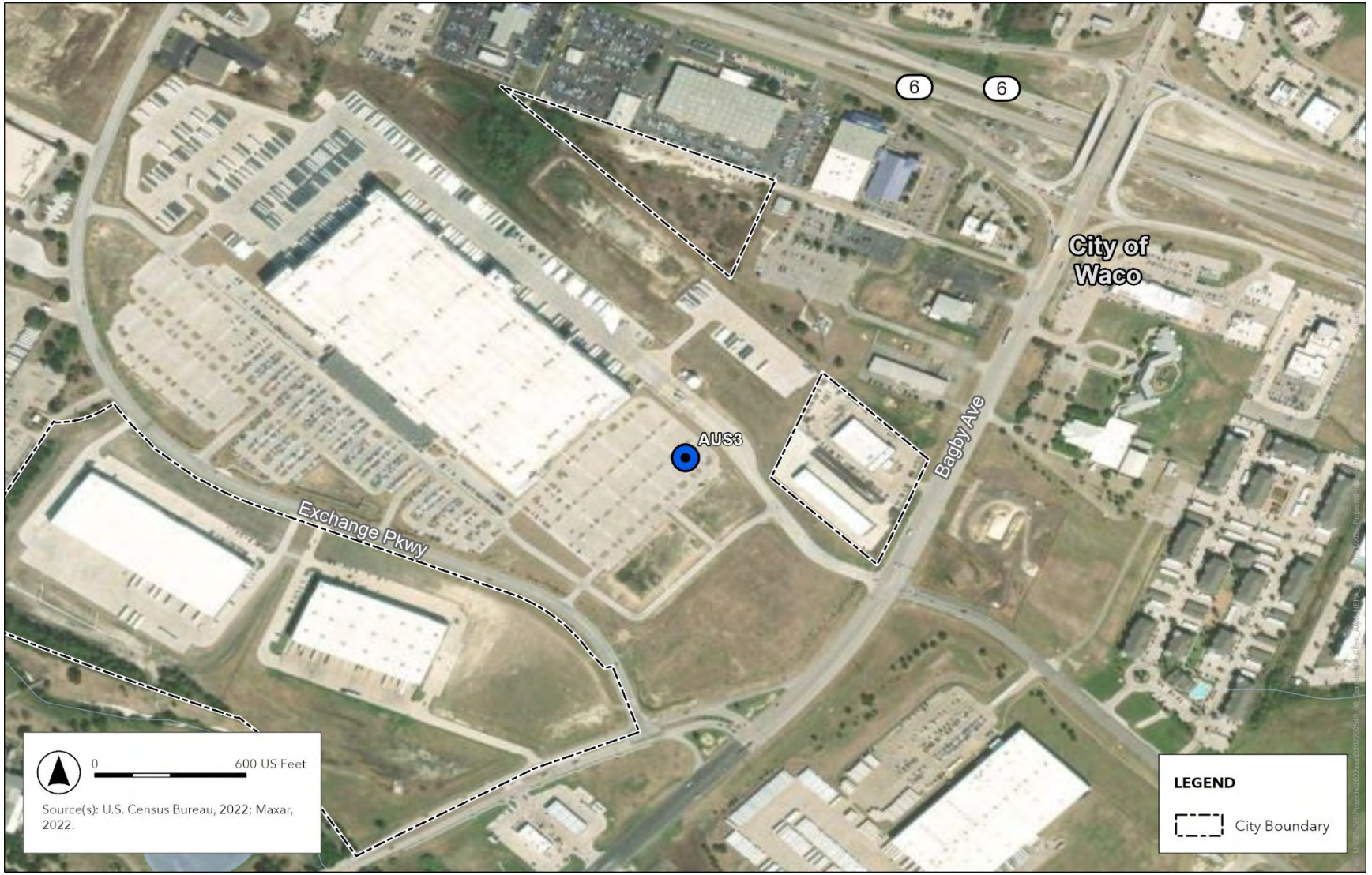
Close-up View of the STX9 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

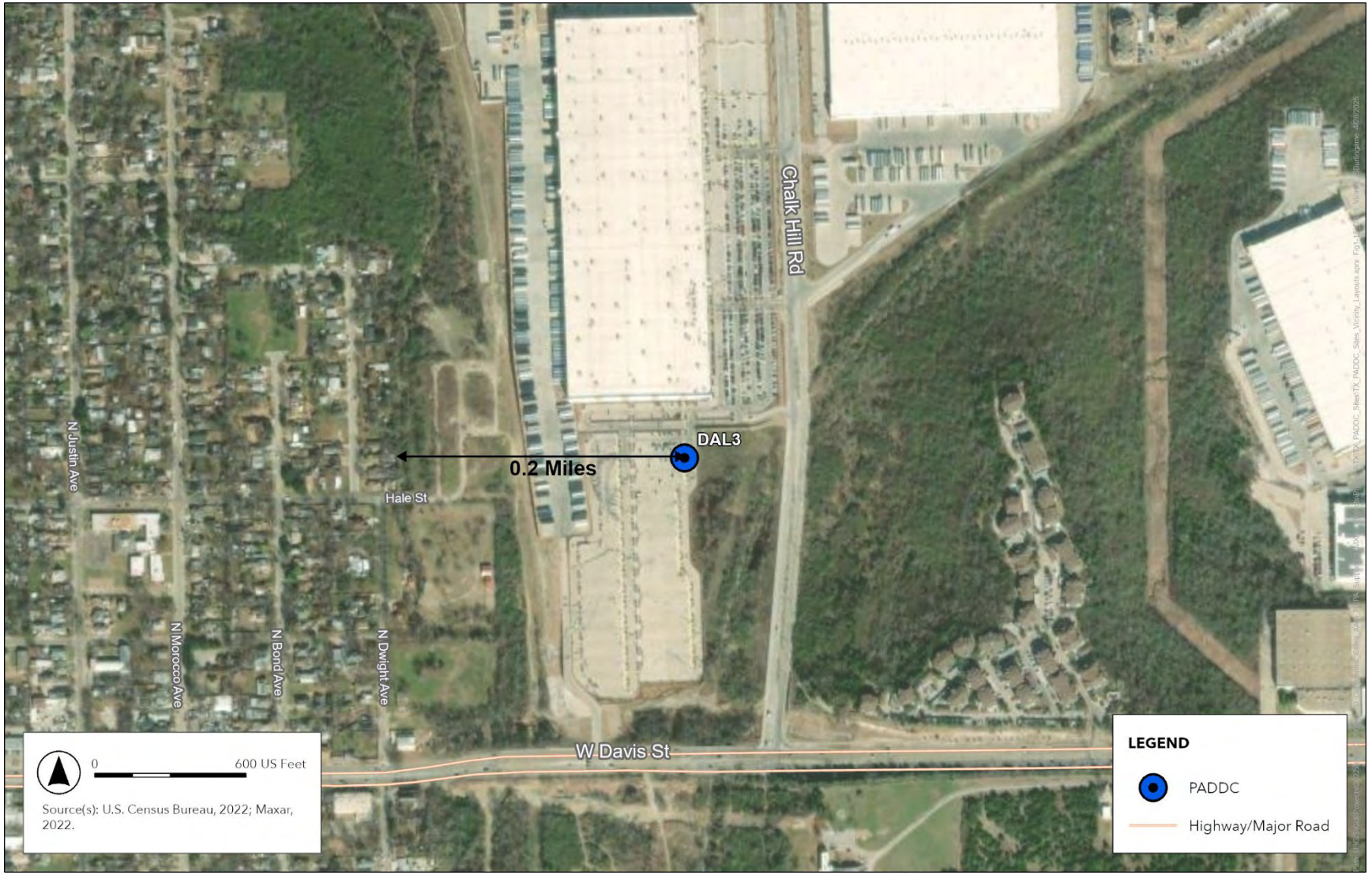
Figure A-12

Close-up View of the AUS2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-13
Close-up View of the AUS3 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

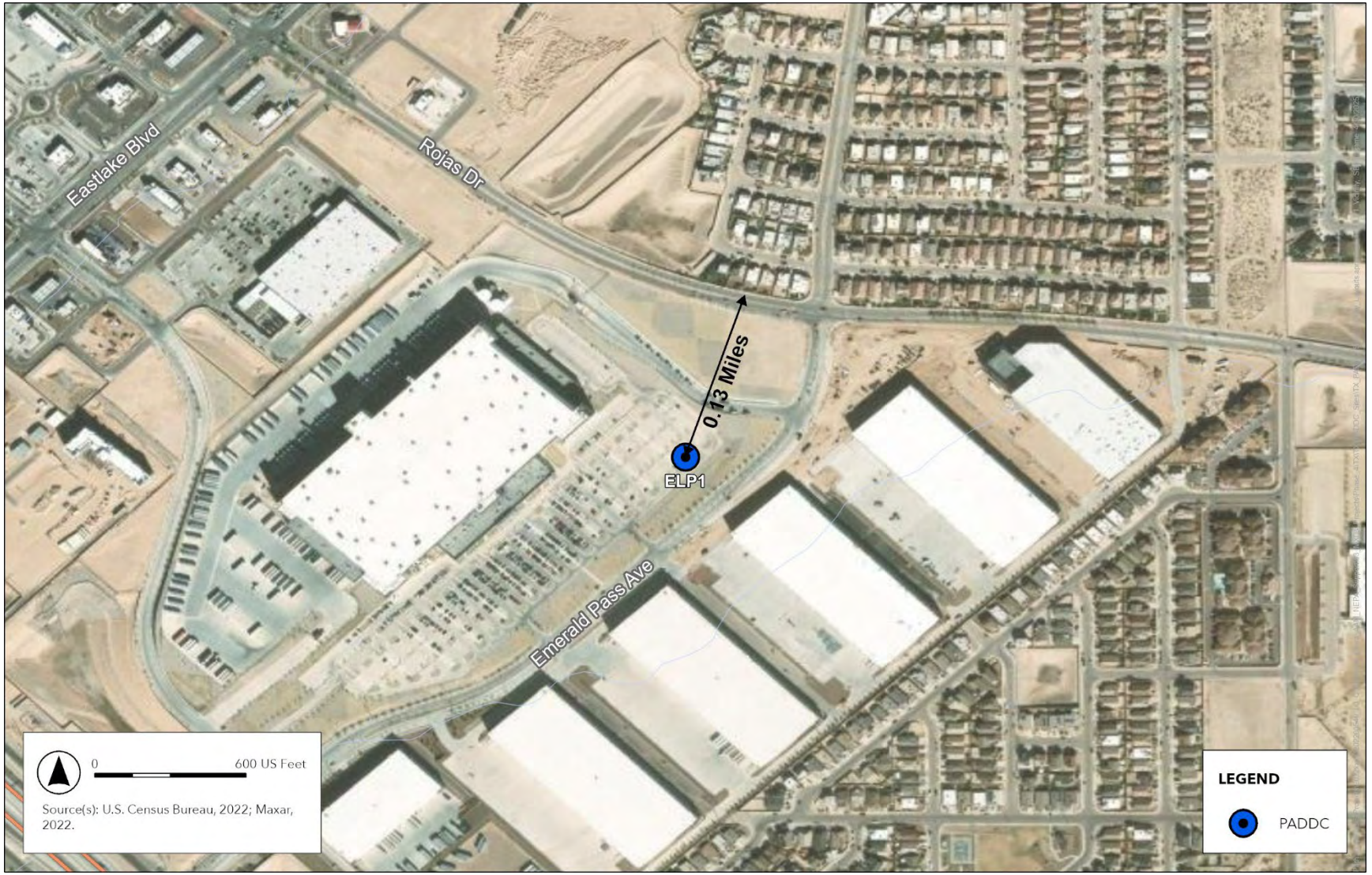
Figure A-14

Close-up View of the DAL3 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

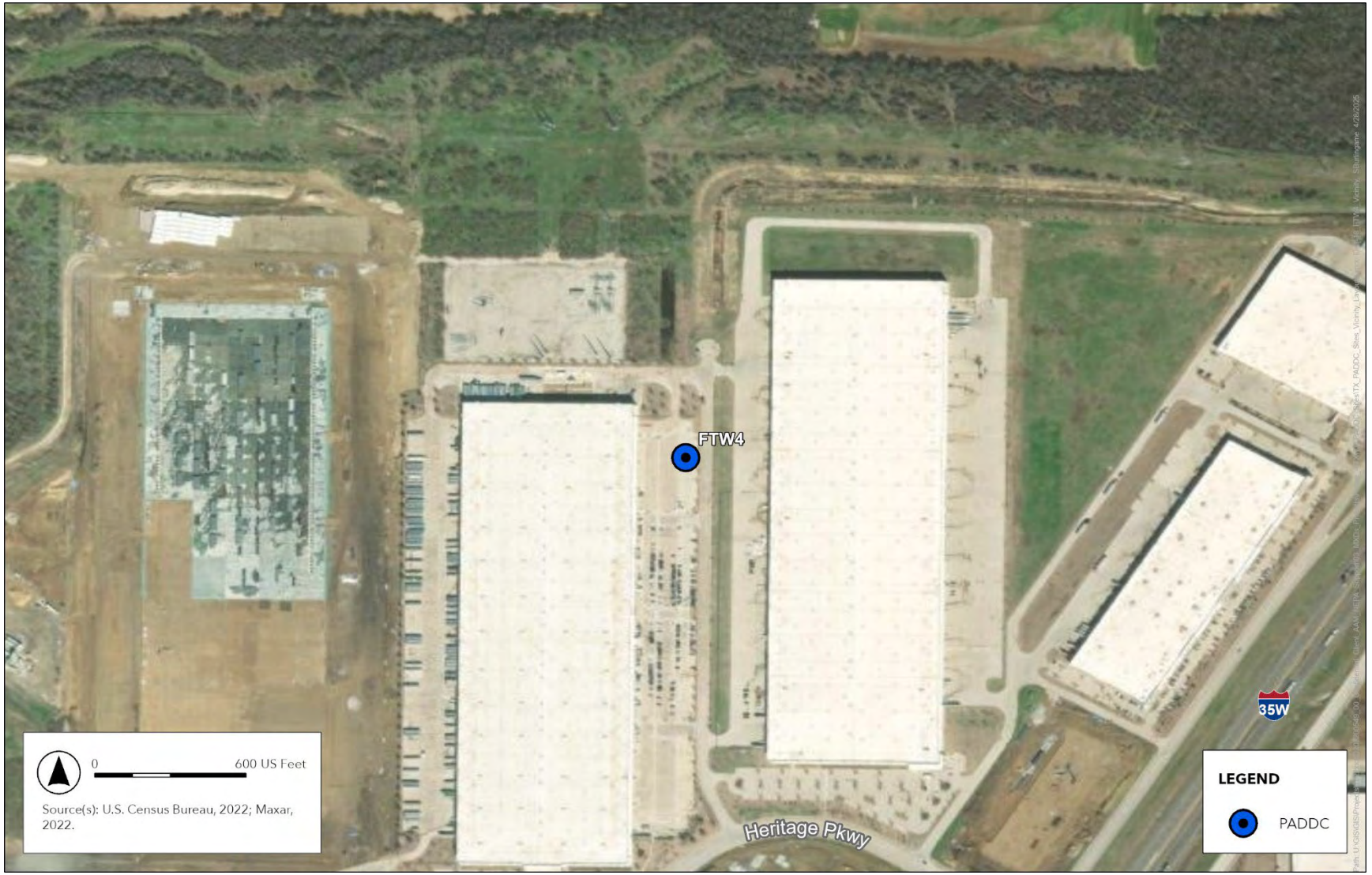
Figure A-15

Close-up View of the DFW7 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

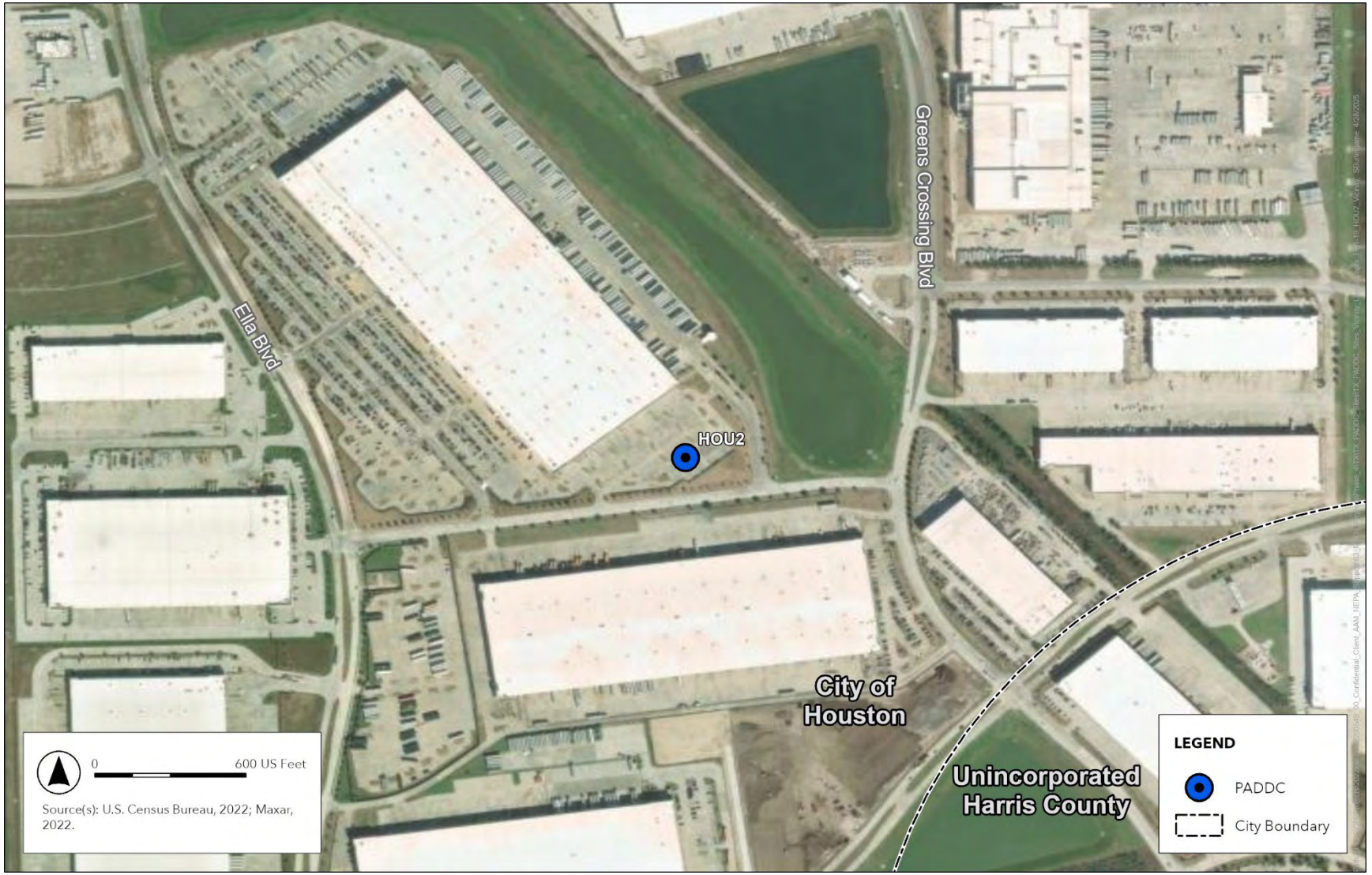
Figure A-16
Close-up View of the ELP1 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-17

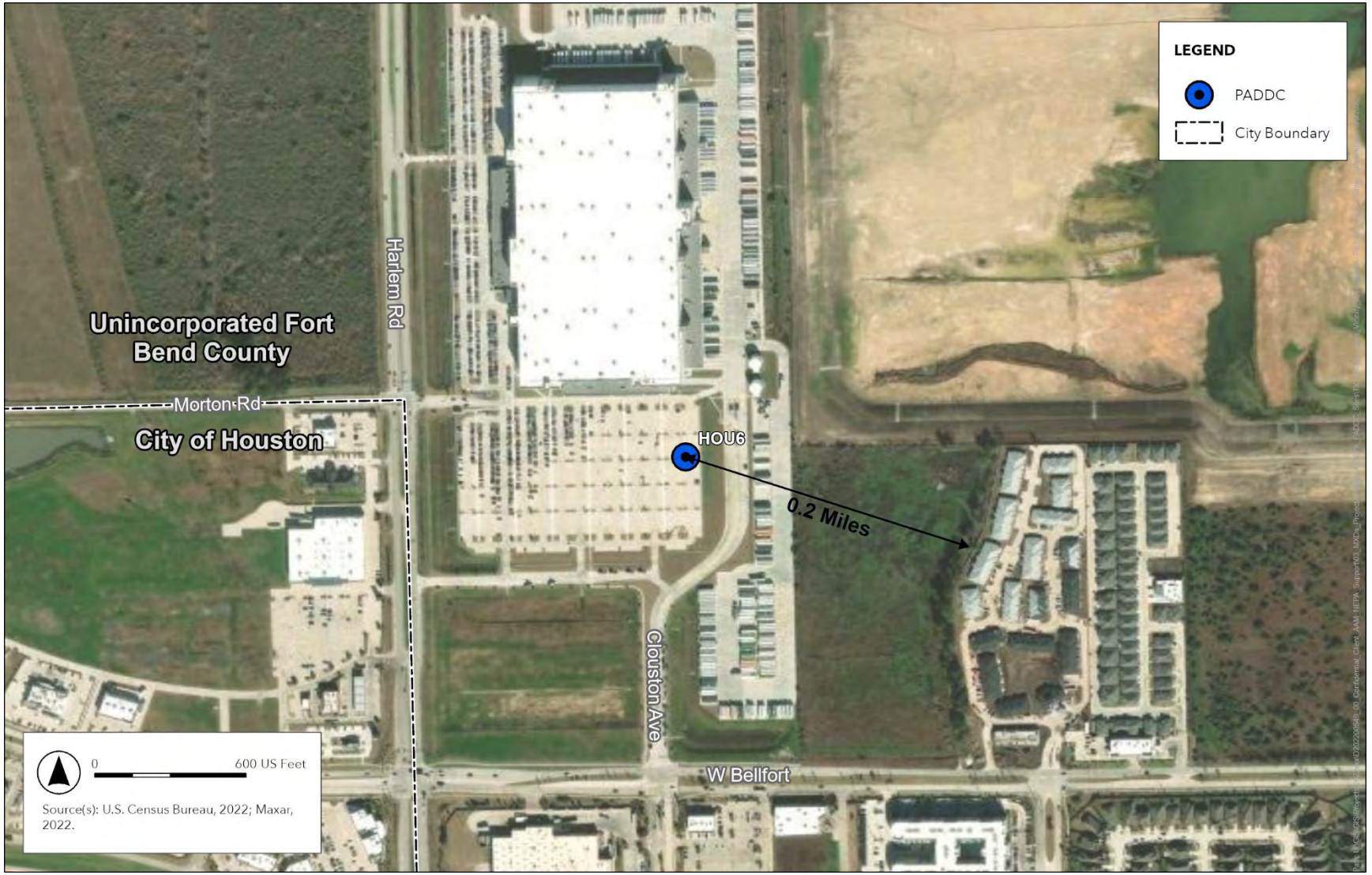
Close-up View of the FTW4 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-18

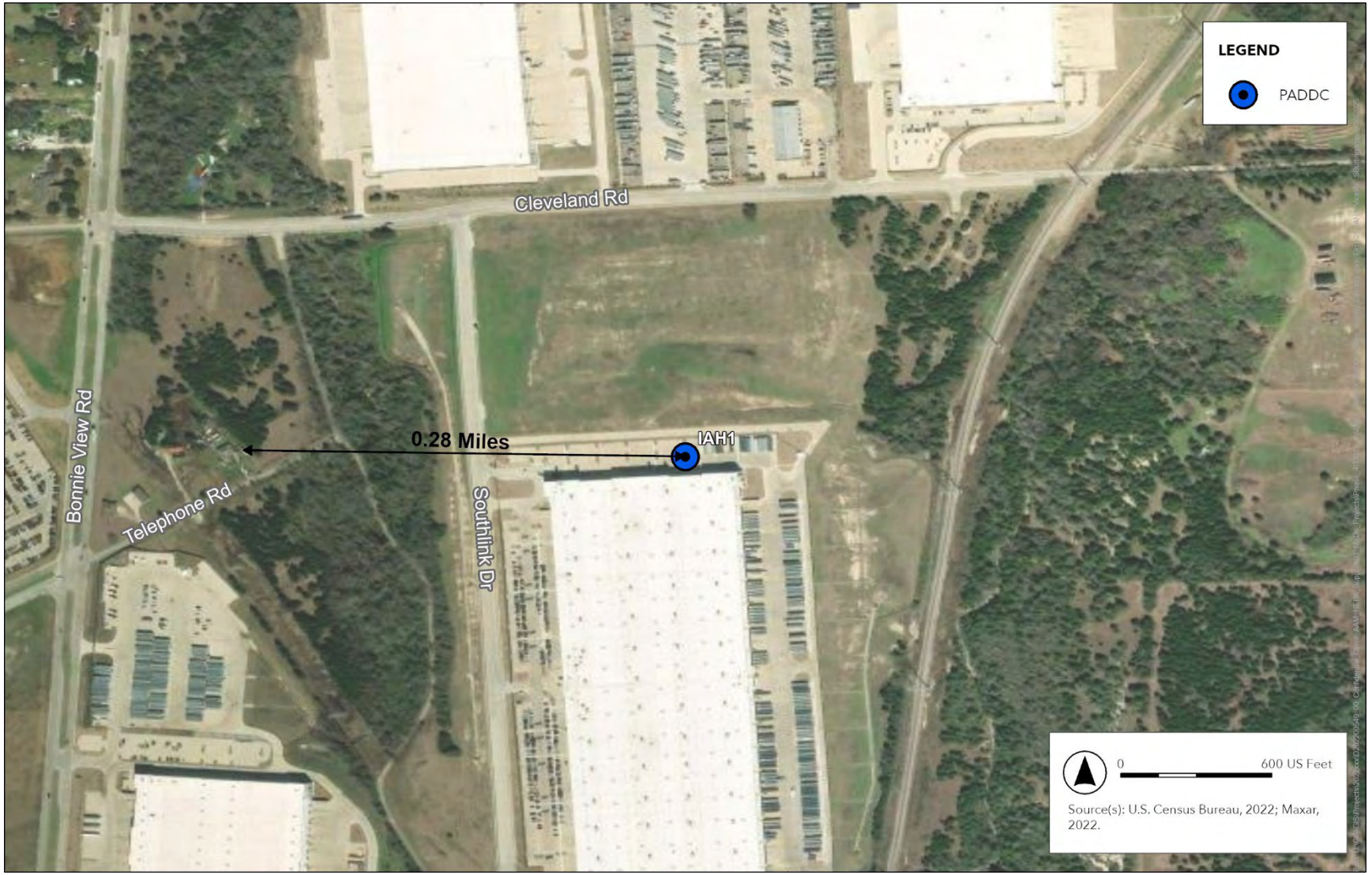
Close-up View of the HOU2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-19

Close-up View of the HOU6 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

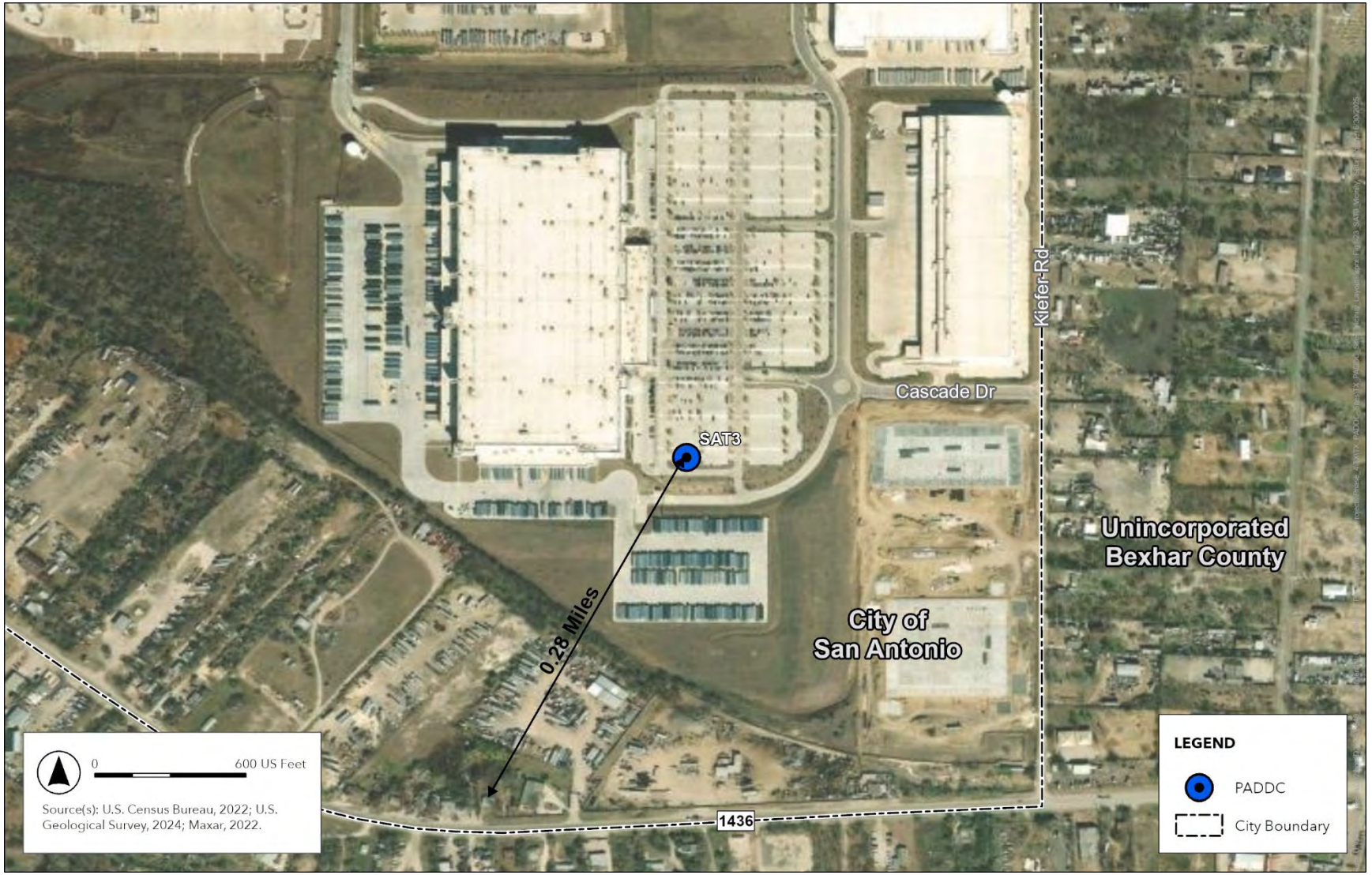
Figure A-20

Close-up View of the IAH1 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-21

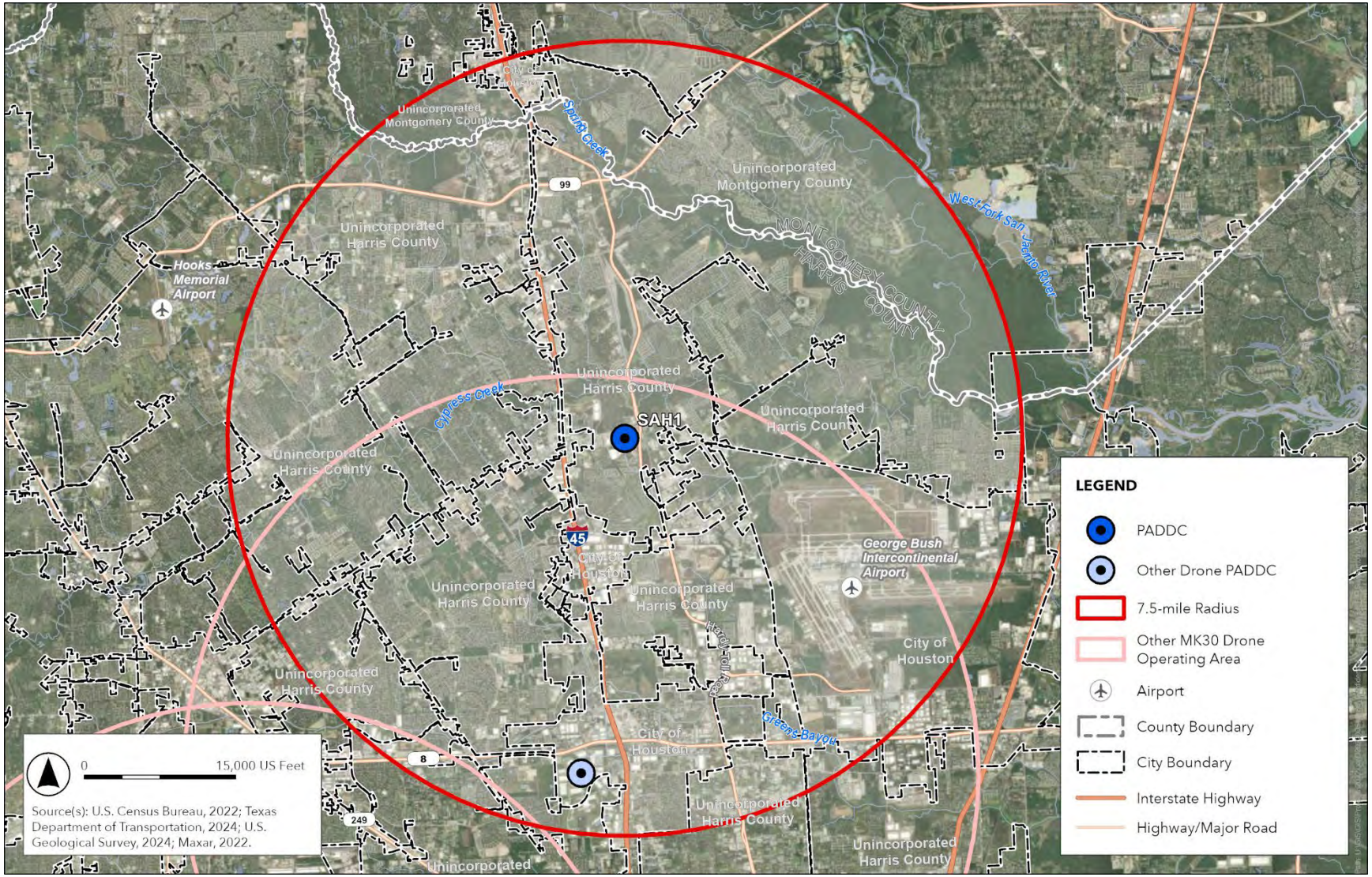
Close-up View of the SAT2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure A-22

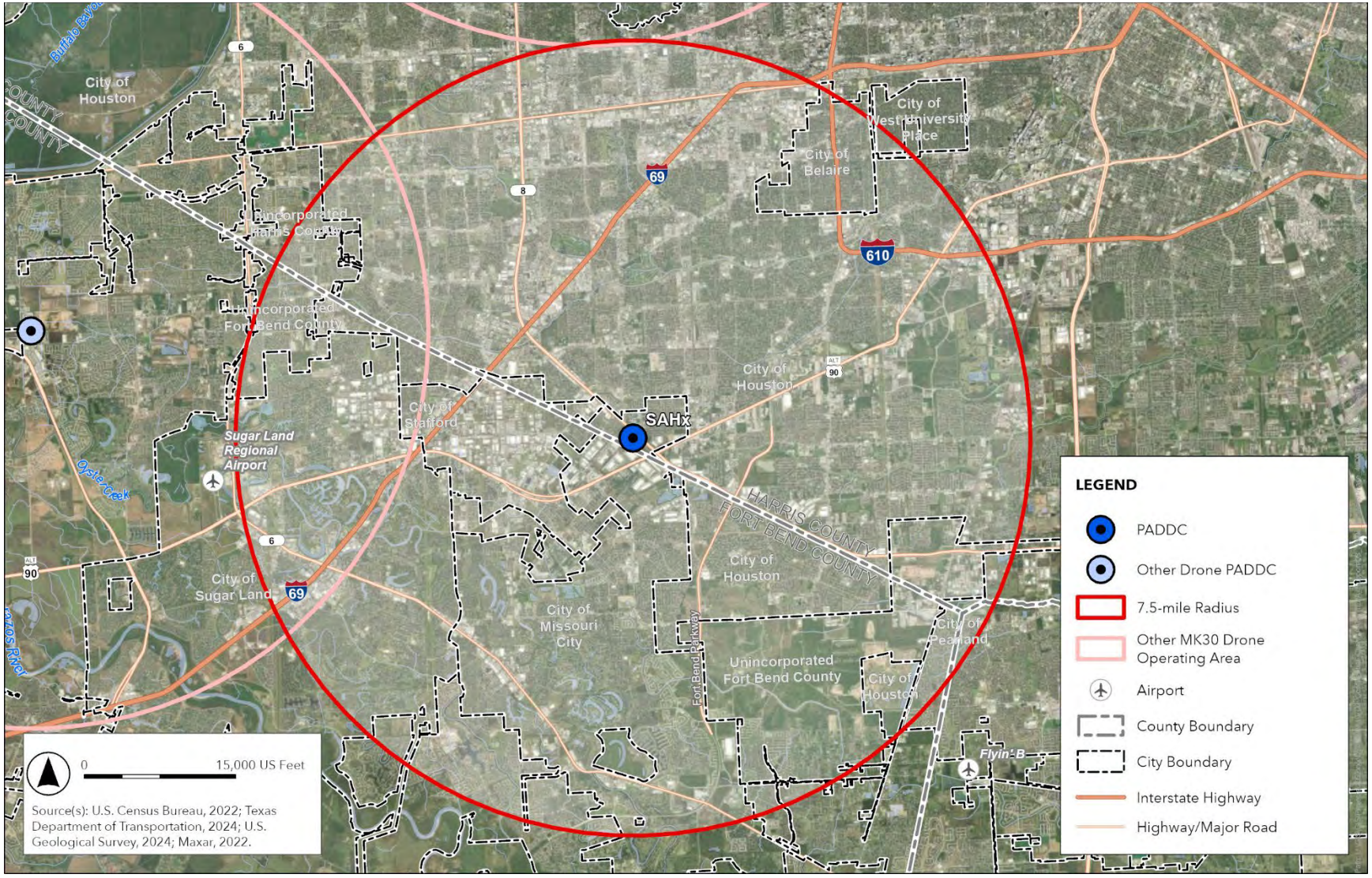
Close-up View of the SAT3 PADDC



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024 Maxar, 2022.

Figure A-23

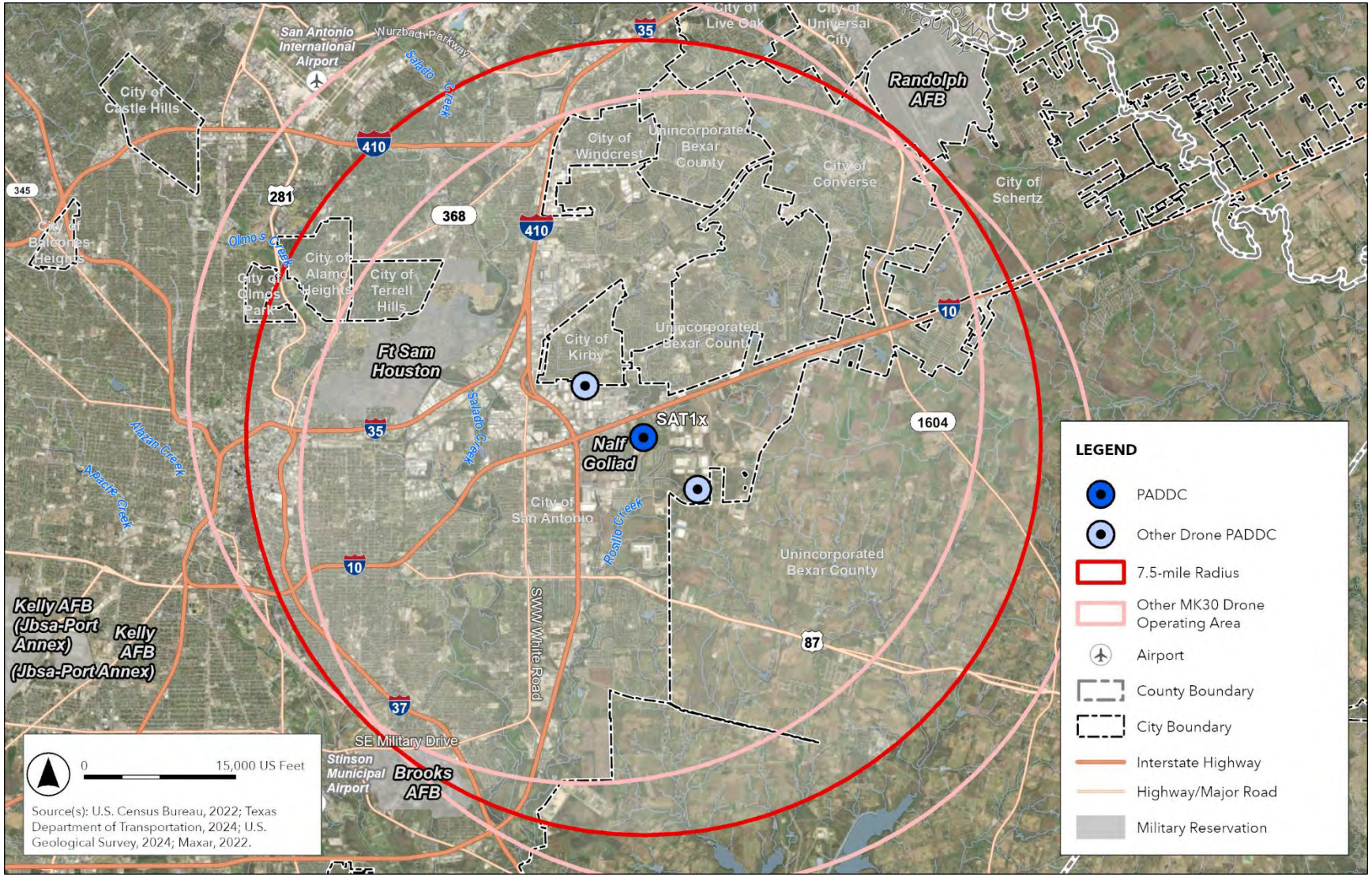
SAH1 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-24

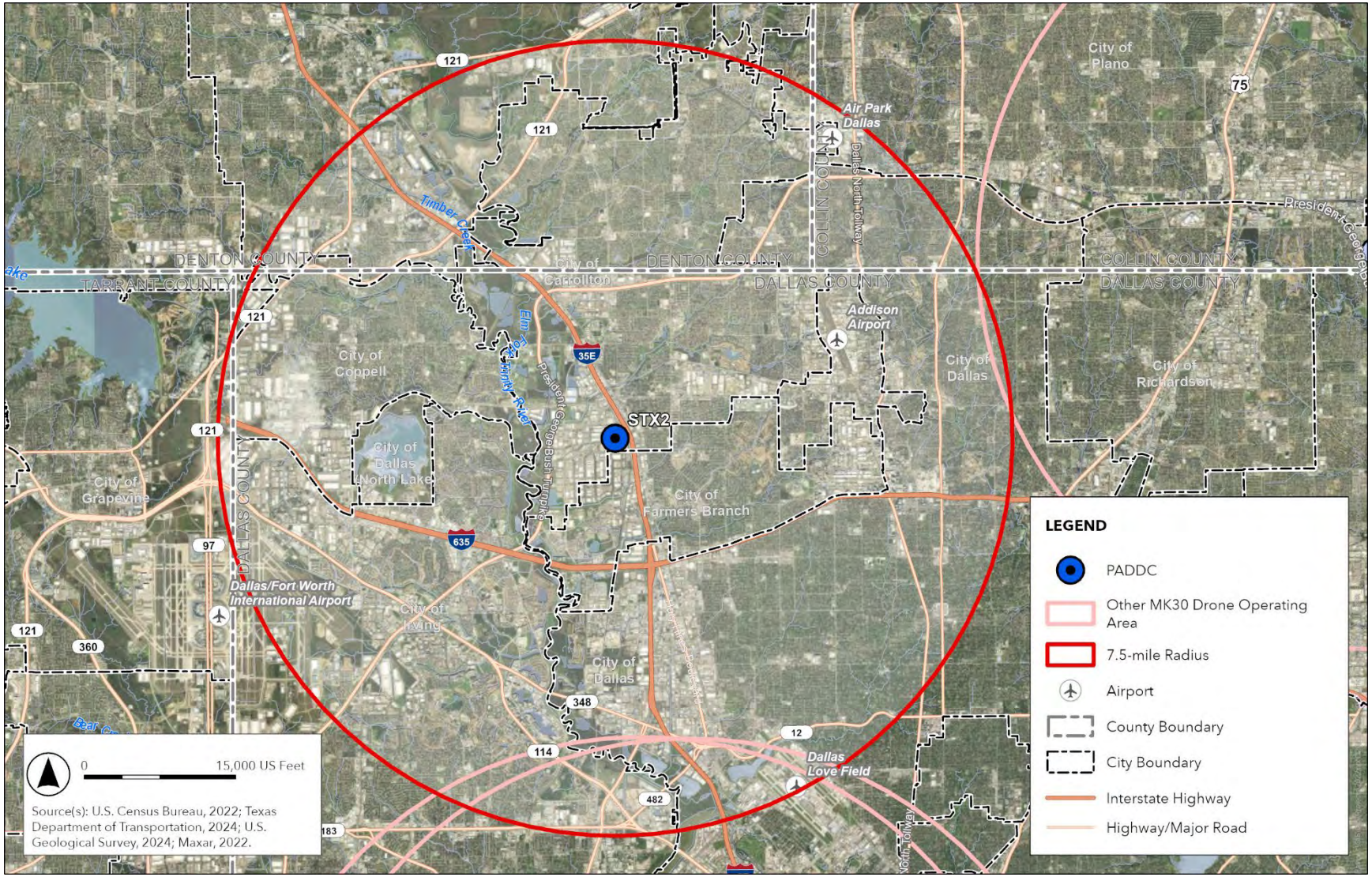
SAHx Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-25

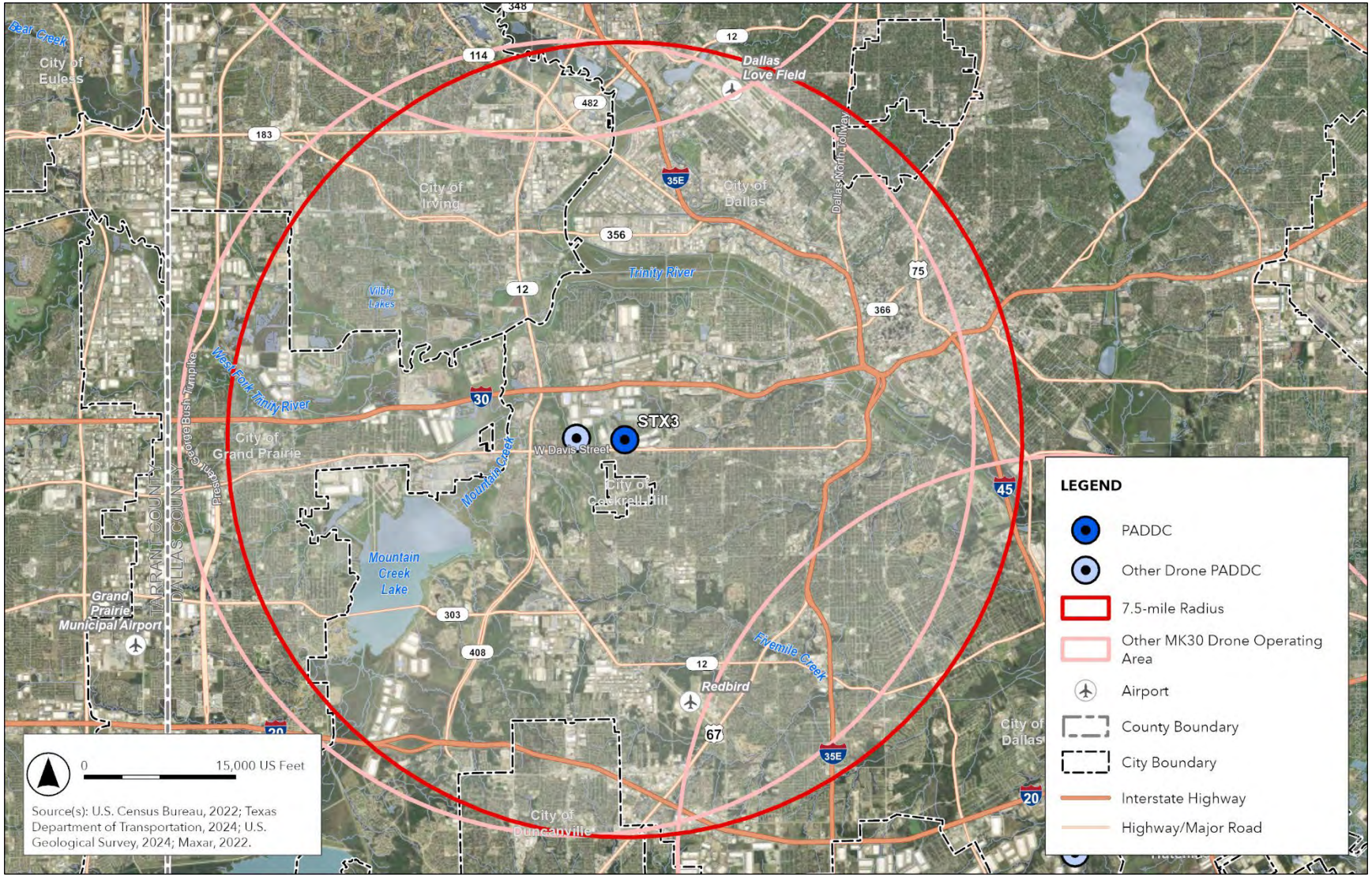
SAT1x Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-26

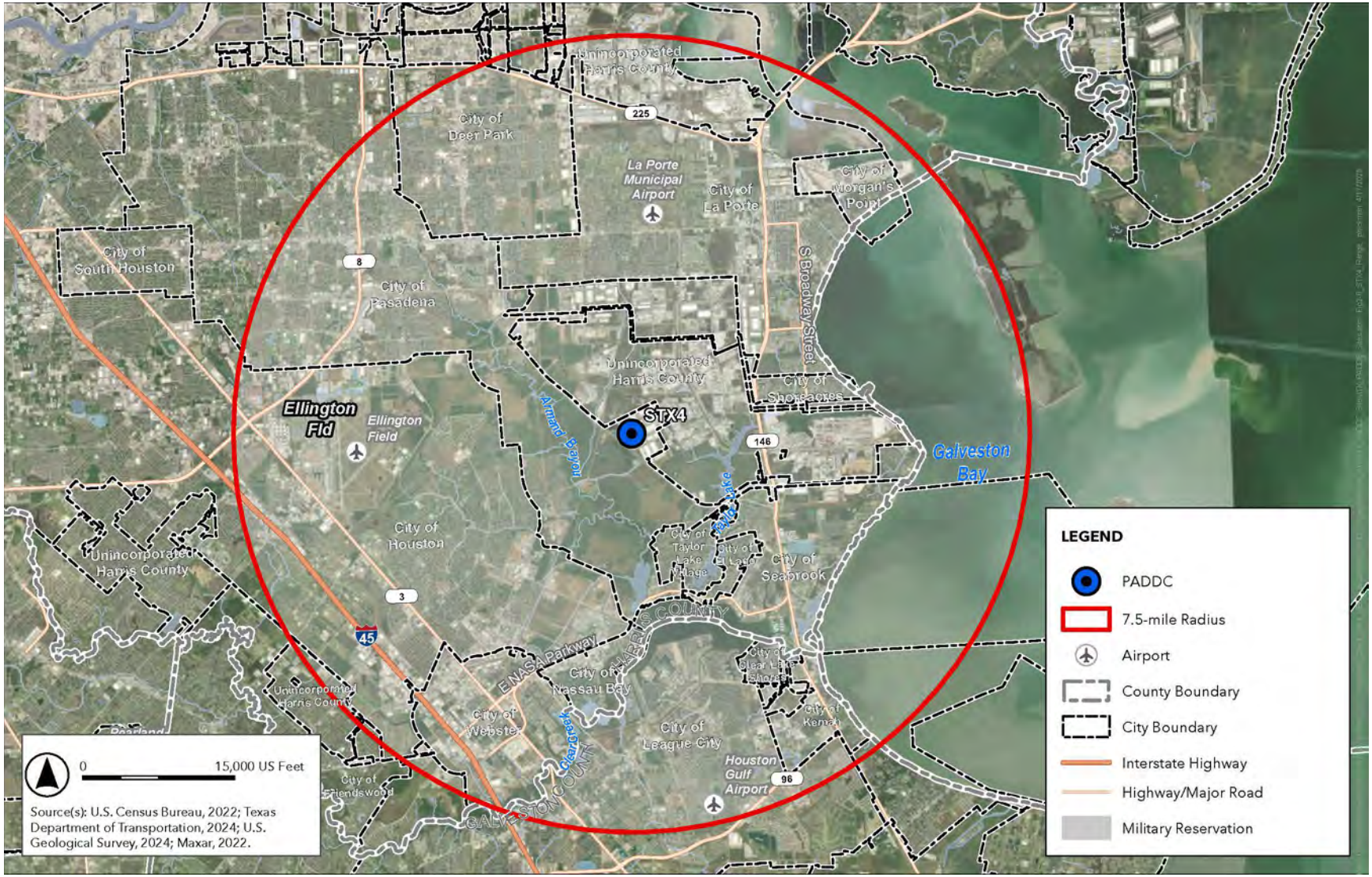
STX2 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-27

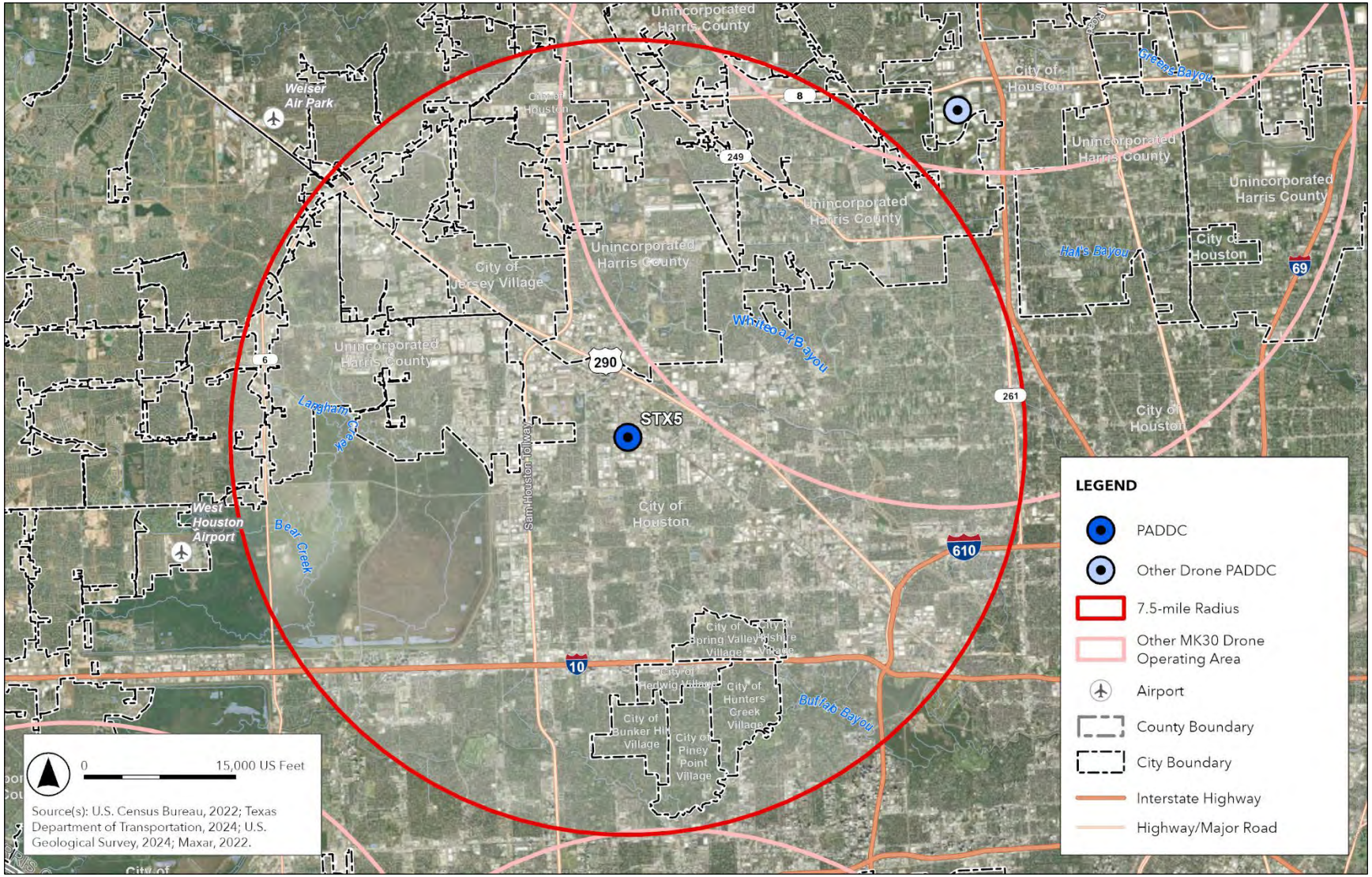
STX3 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-28

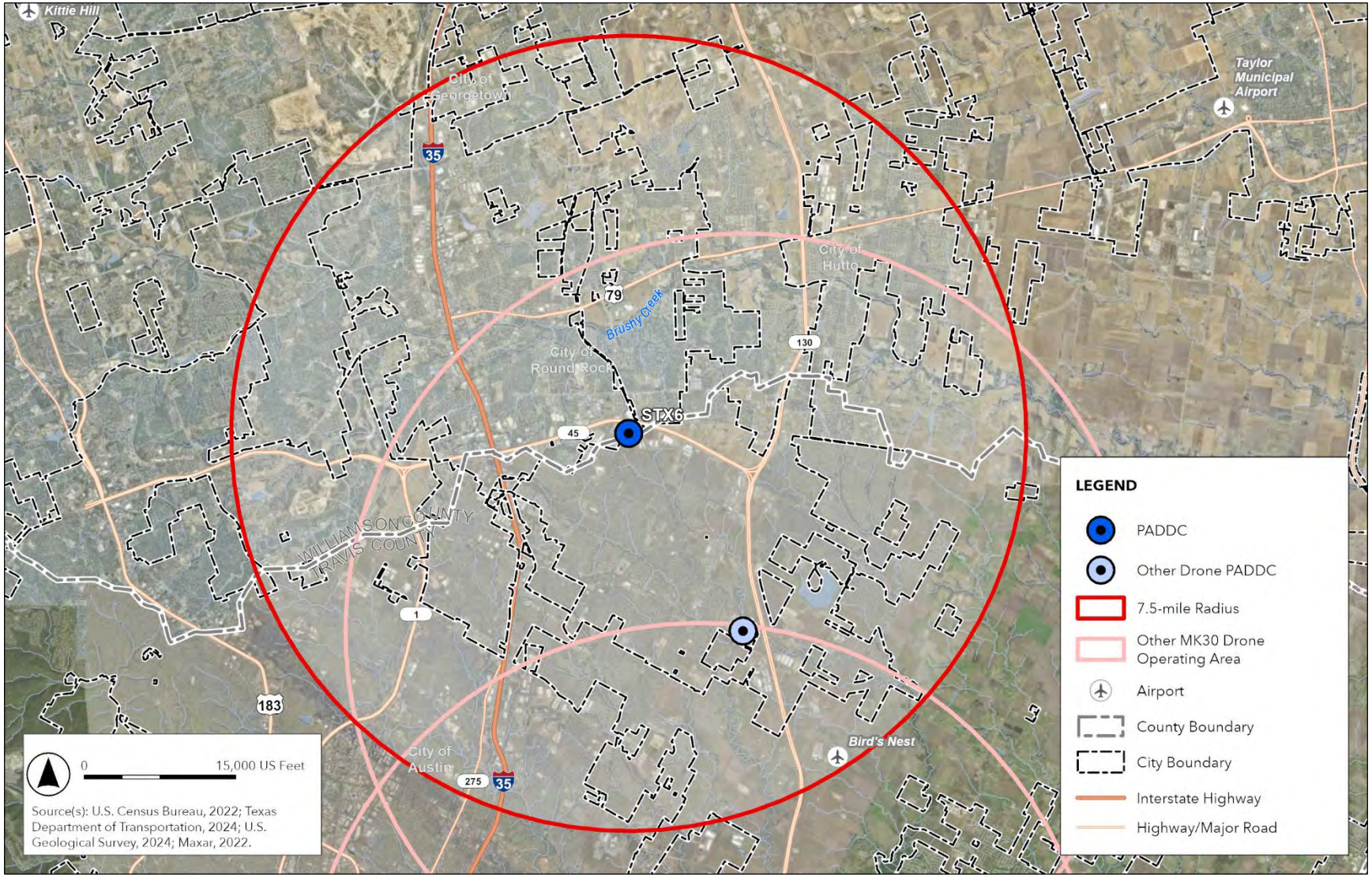
STX4 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-29

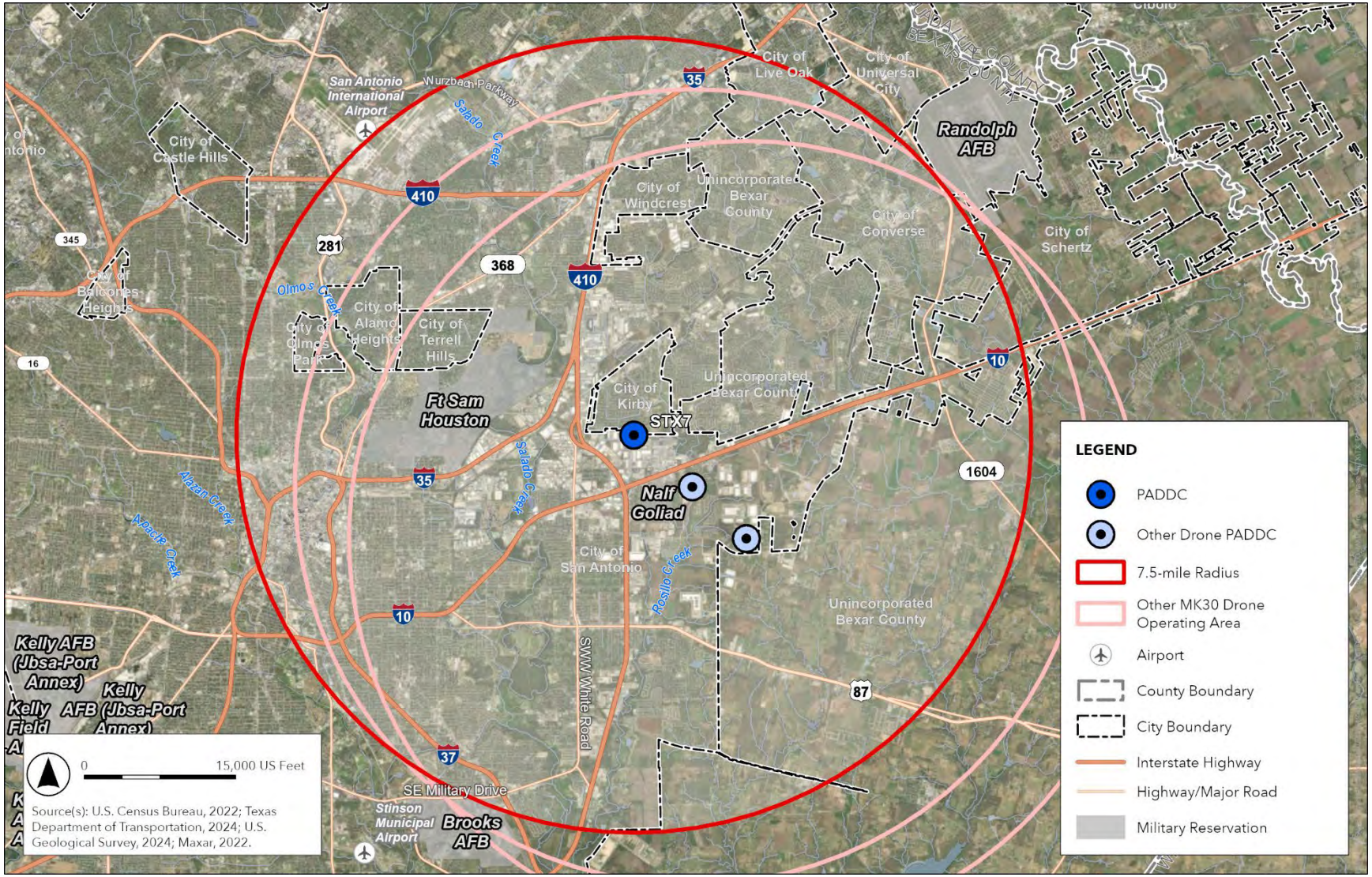
STX5 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-30

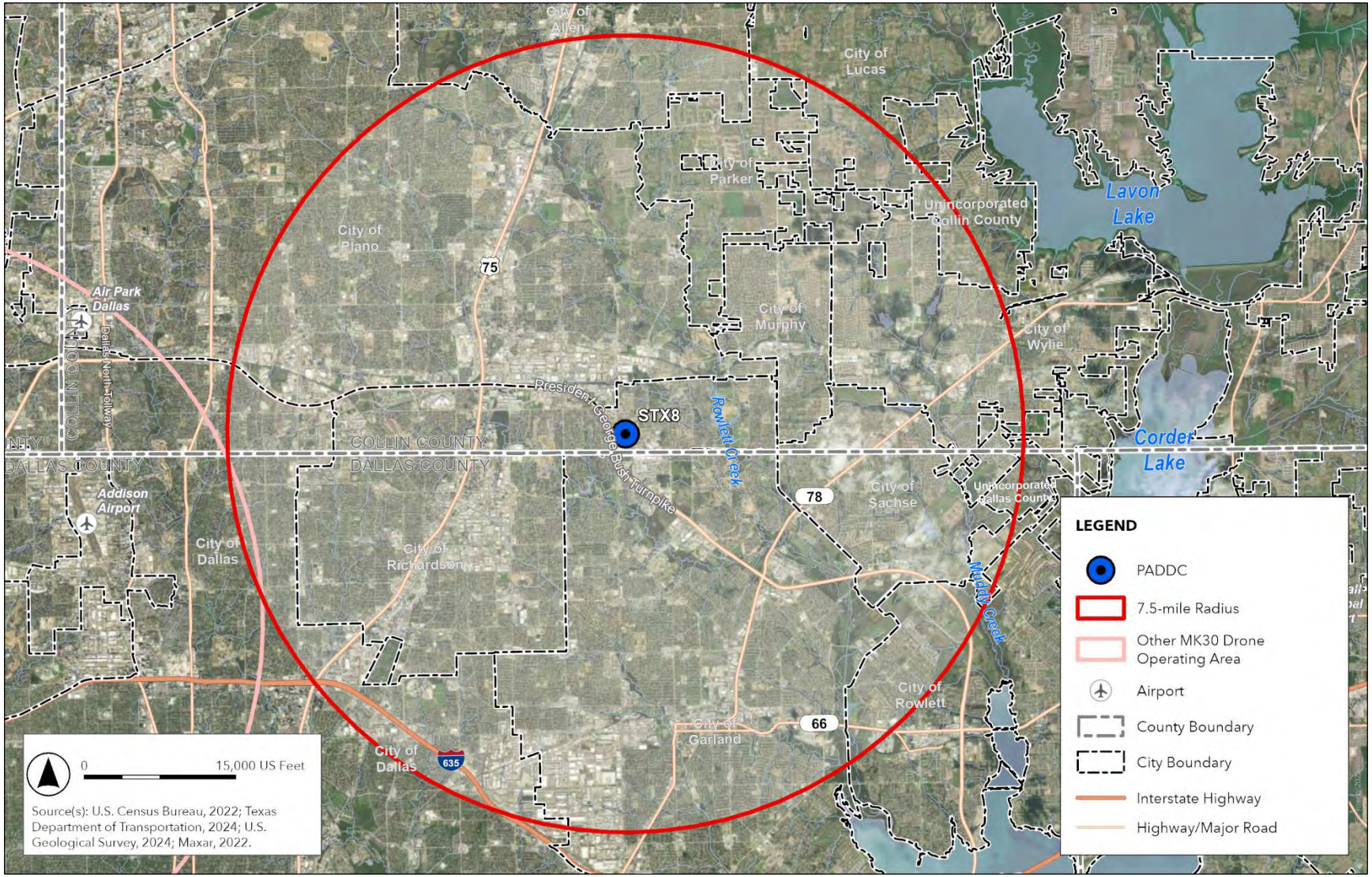
STX6 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-31

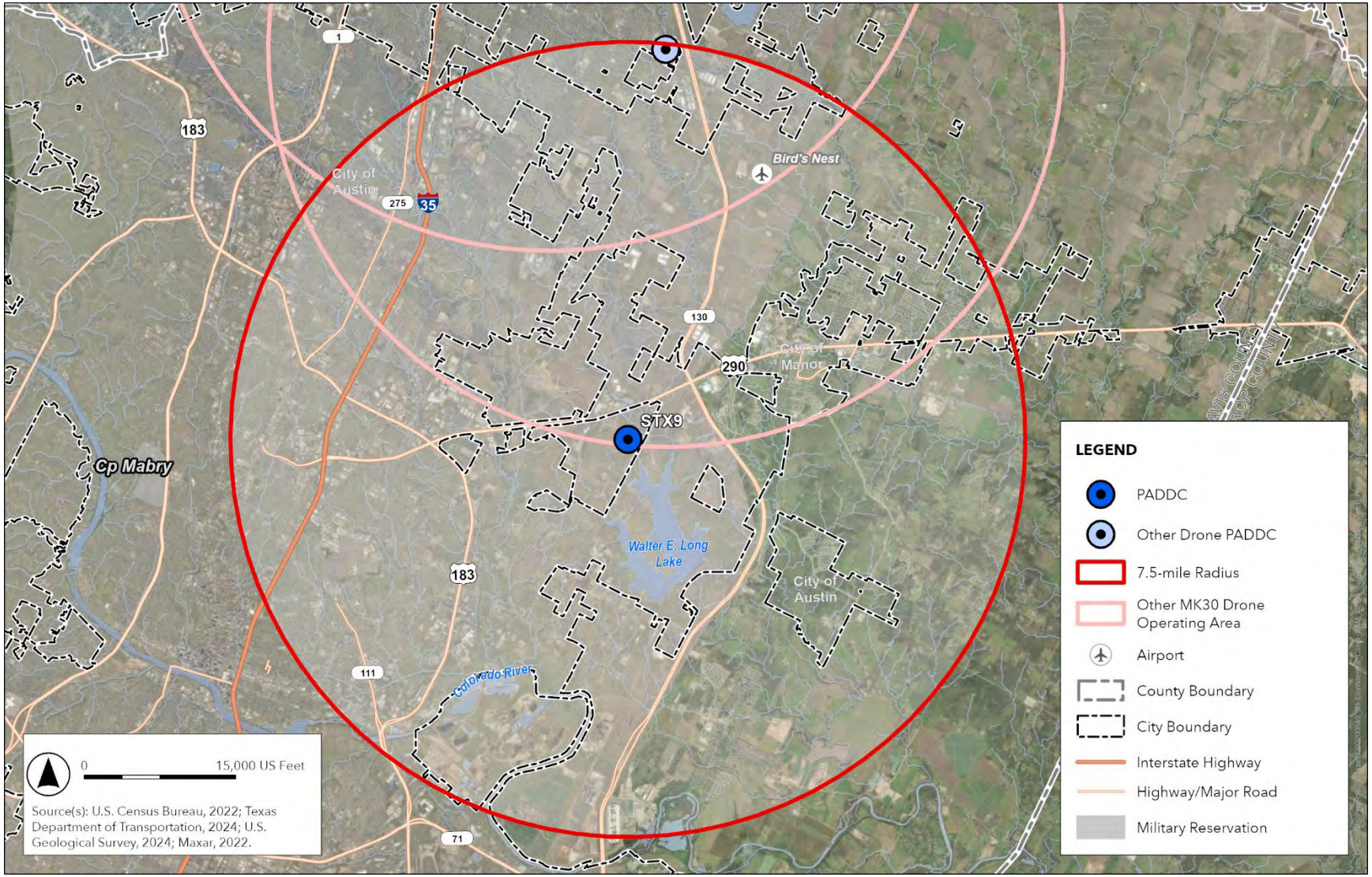
STX7 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-32

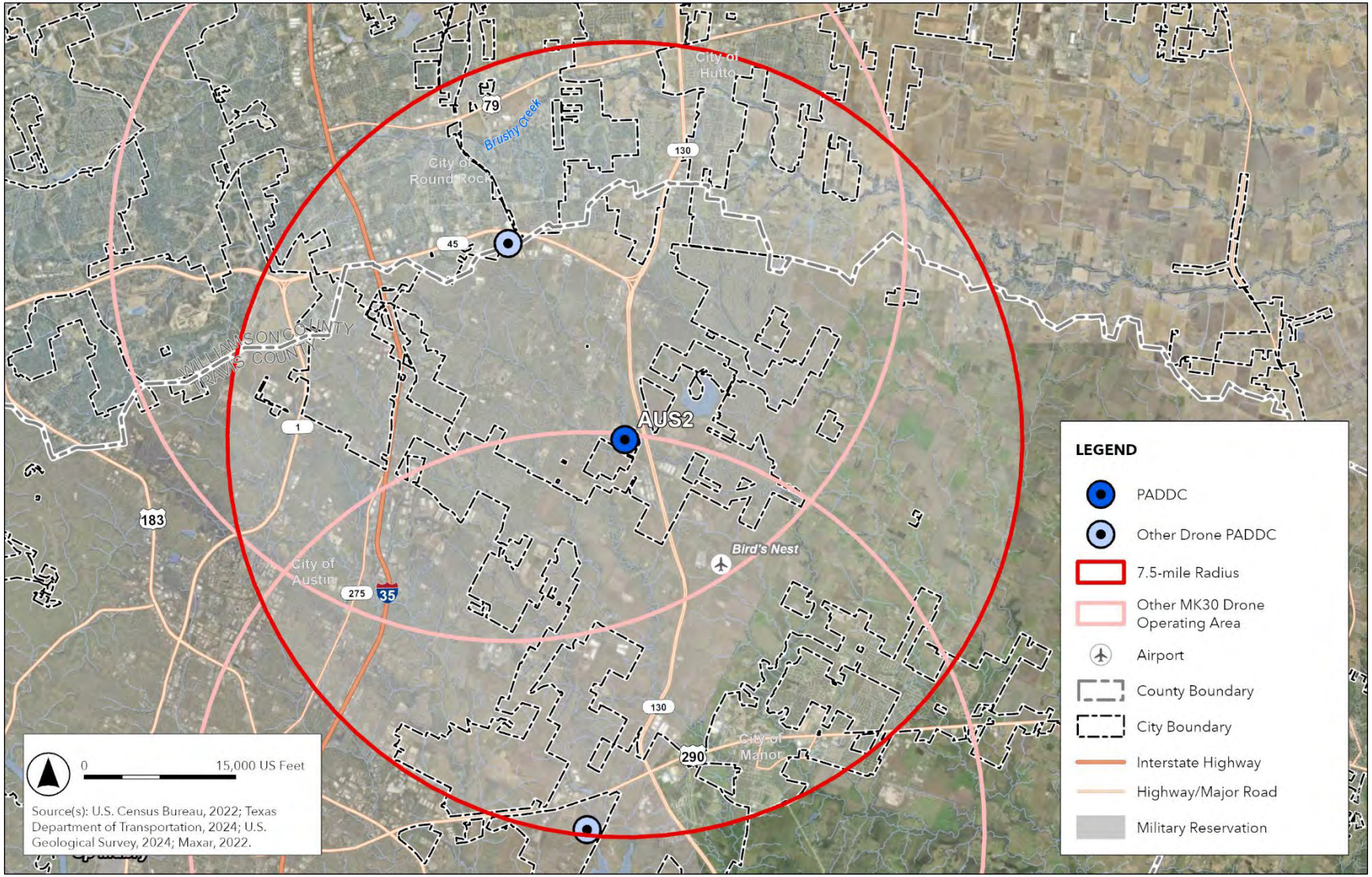
STX8 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-33

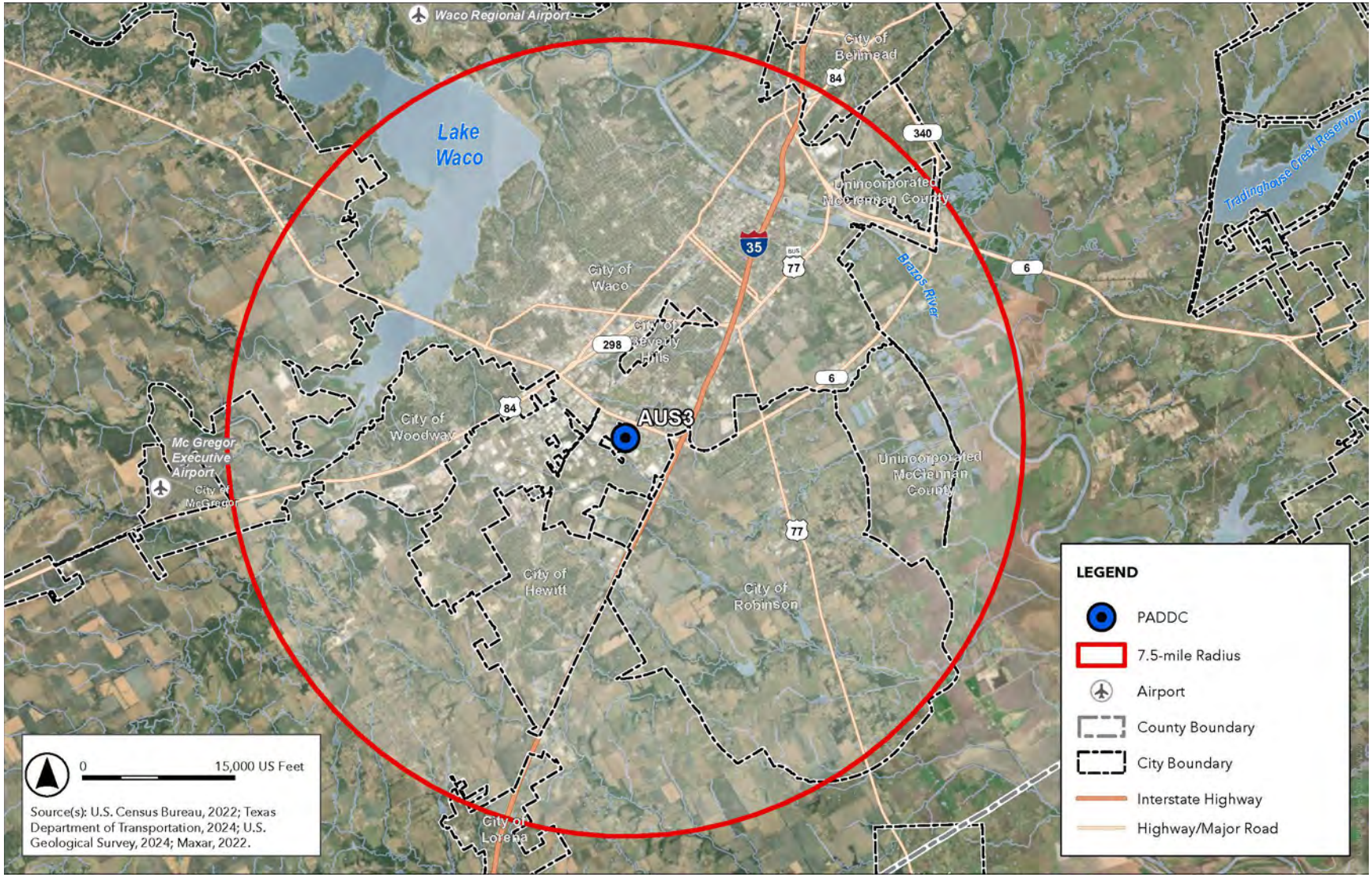
STX9 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-34

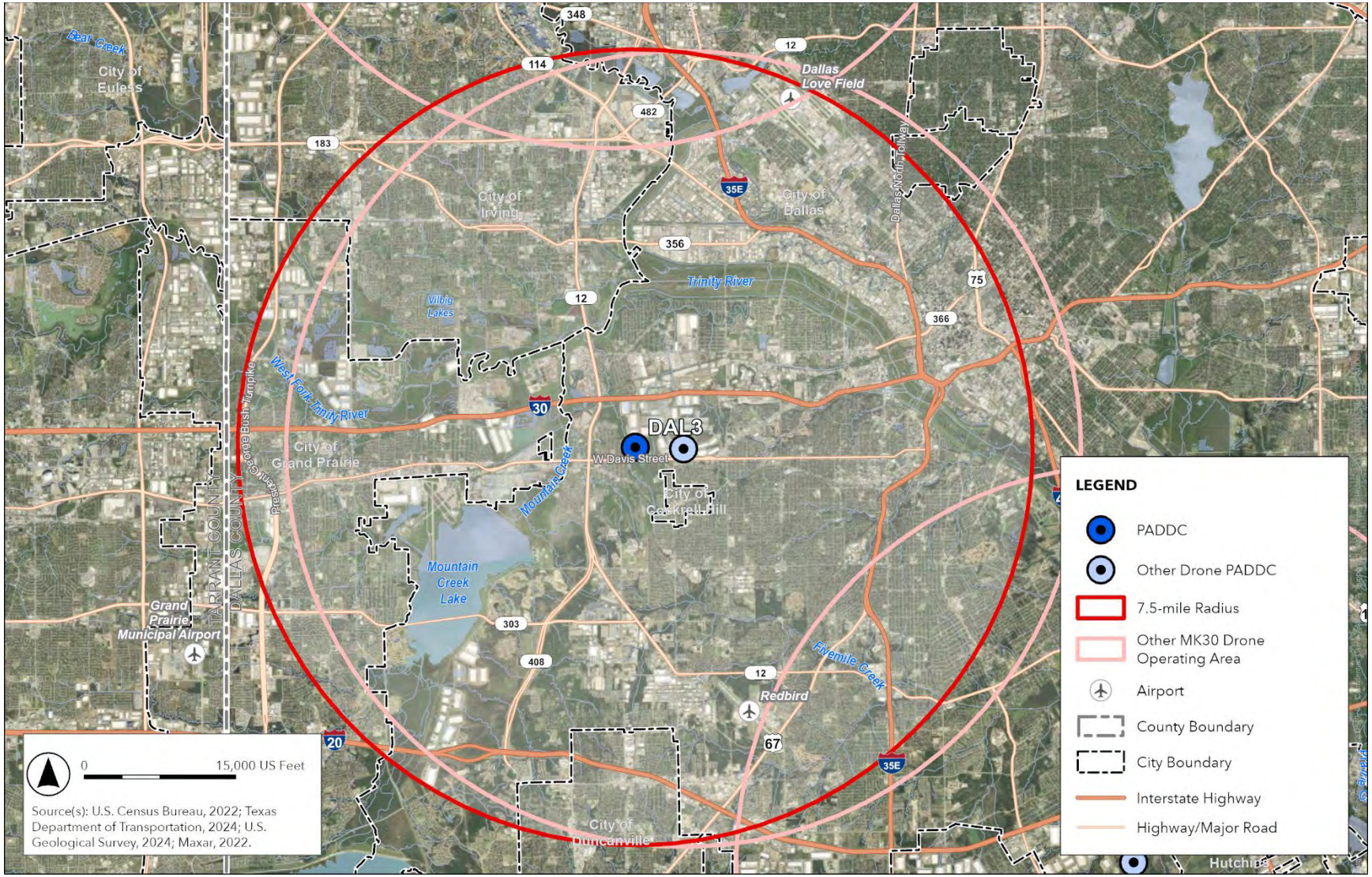
AUS2 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-35

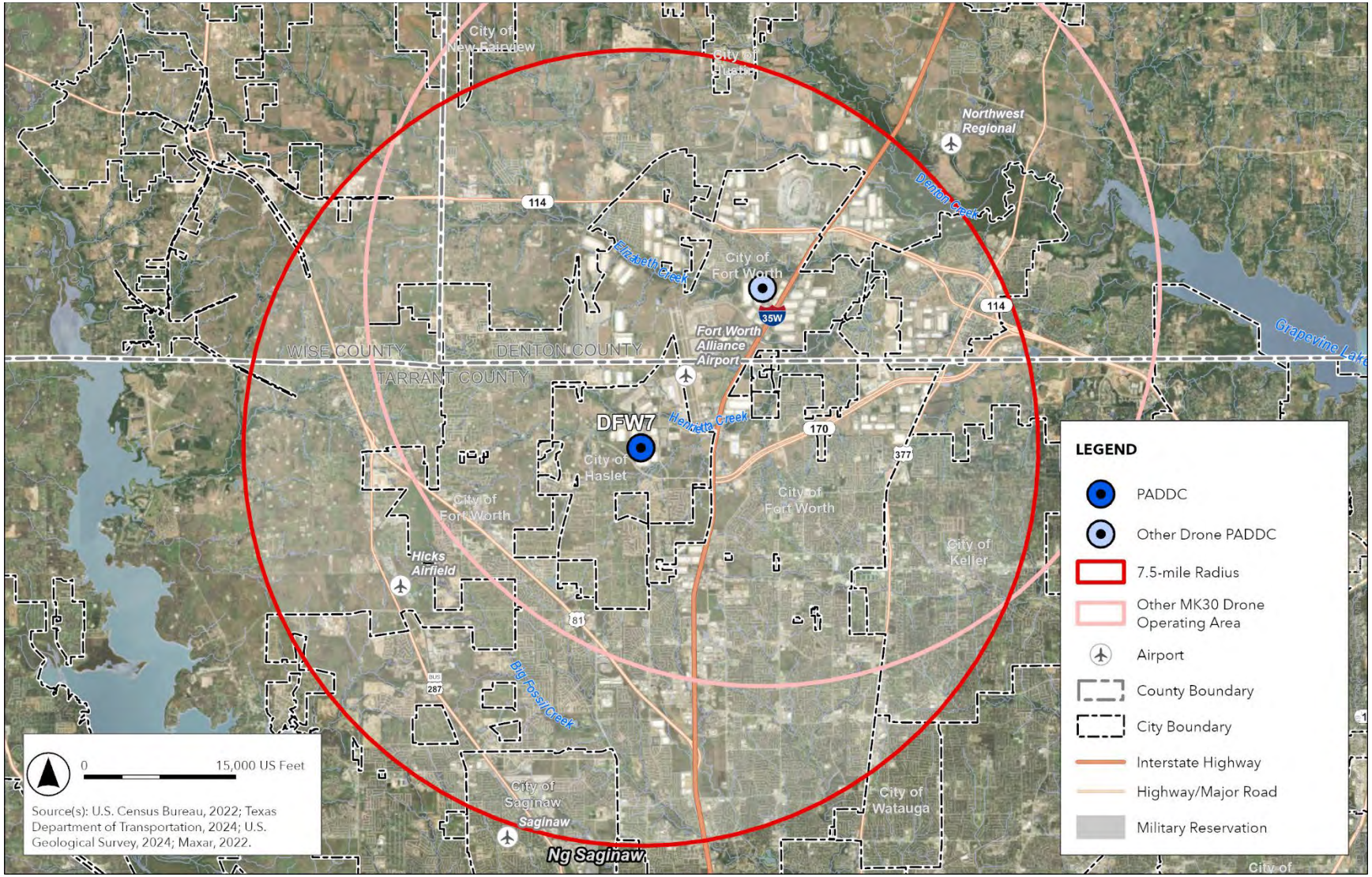
AUS3 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-36

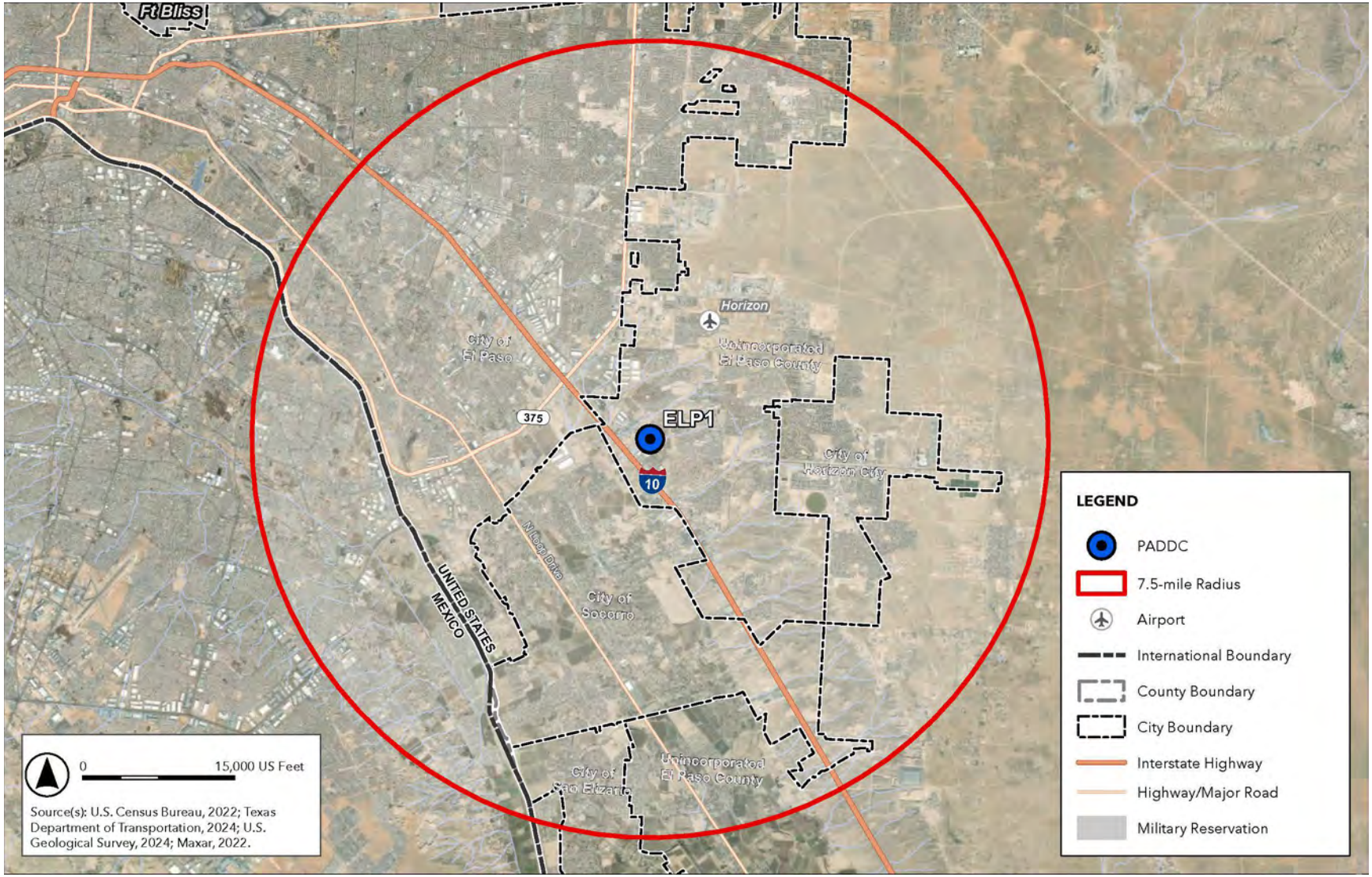
DAL3 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-37

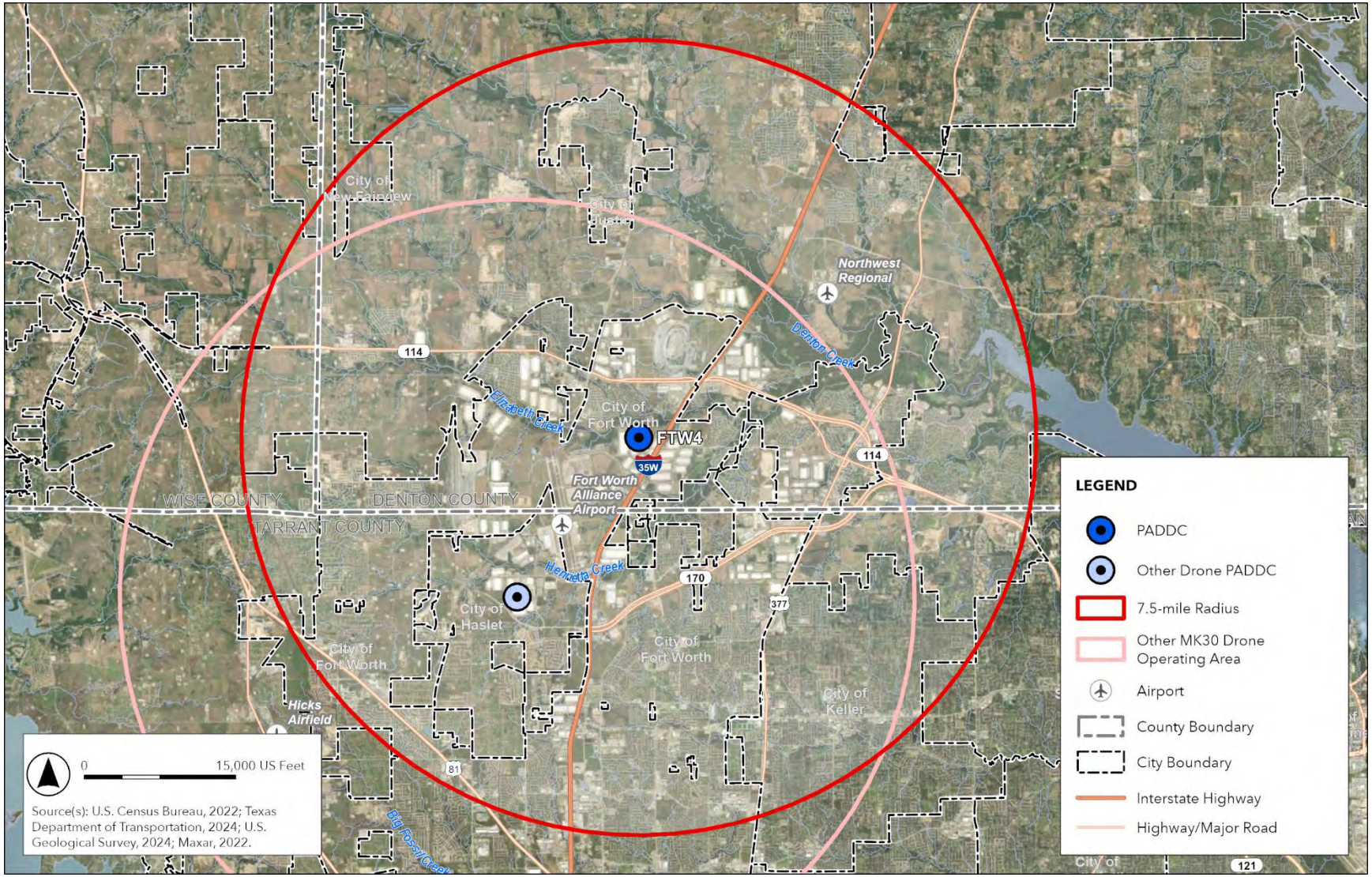
DFW7 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-38

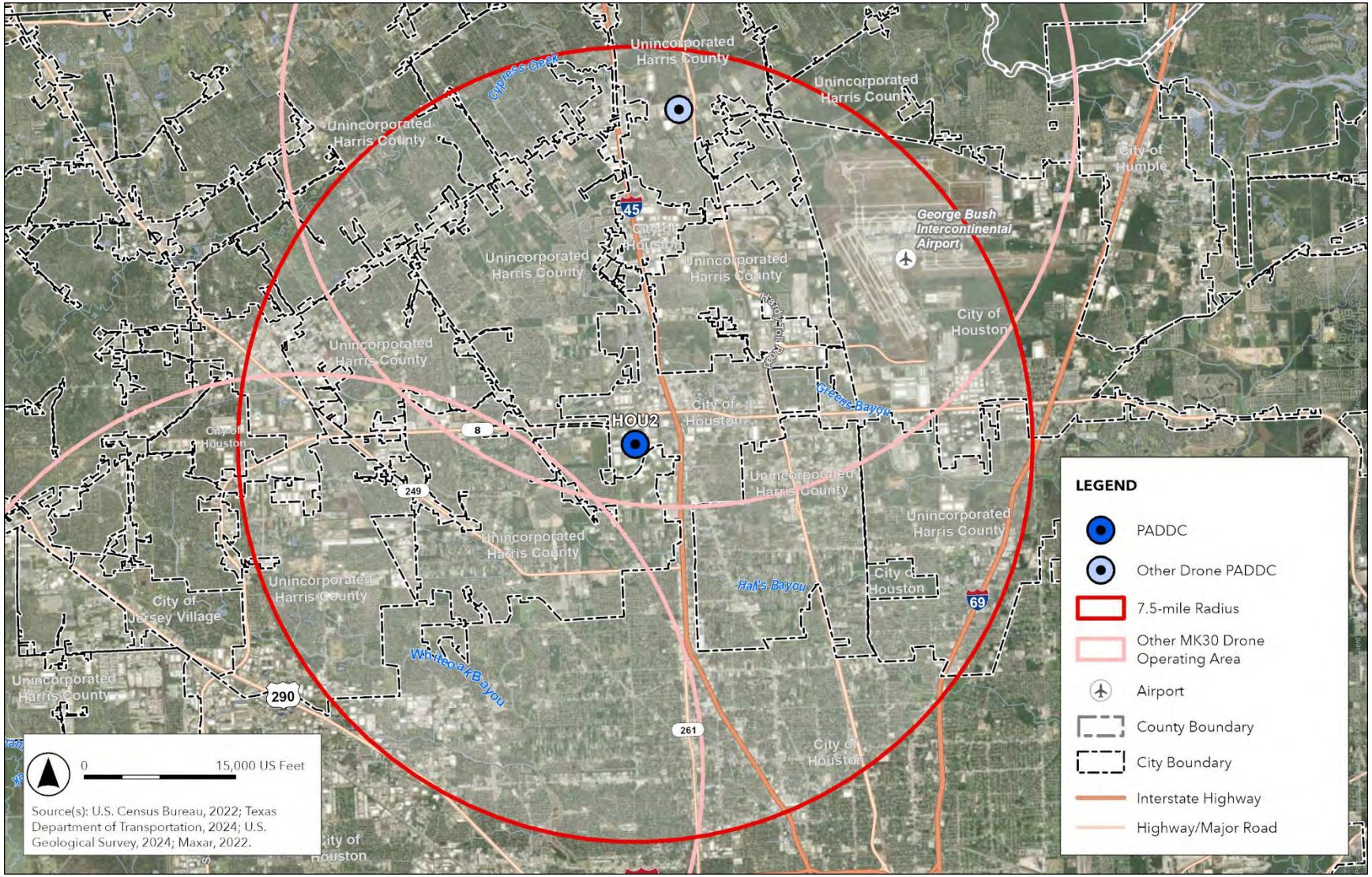
ELP1 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-39

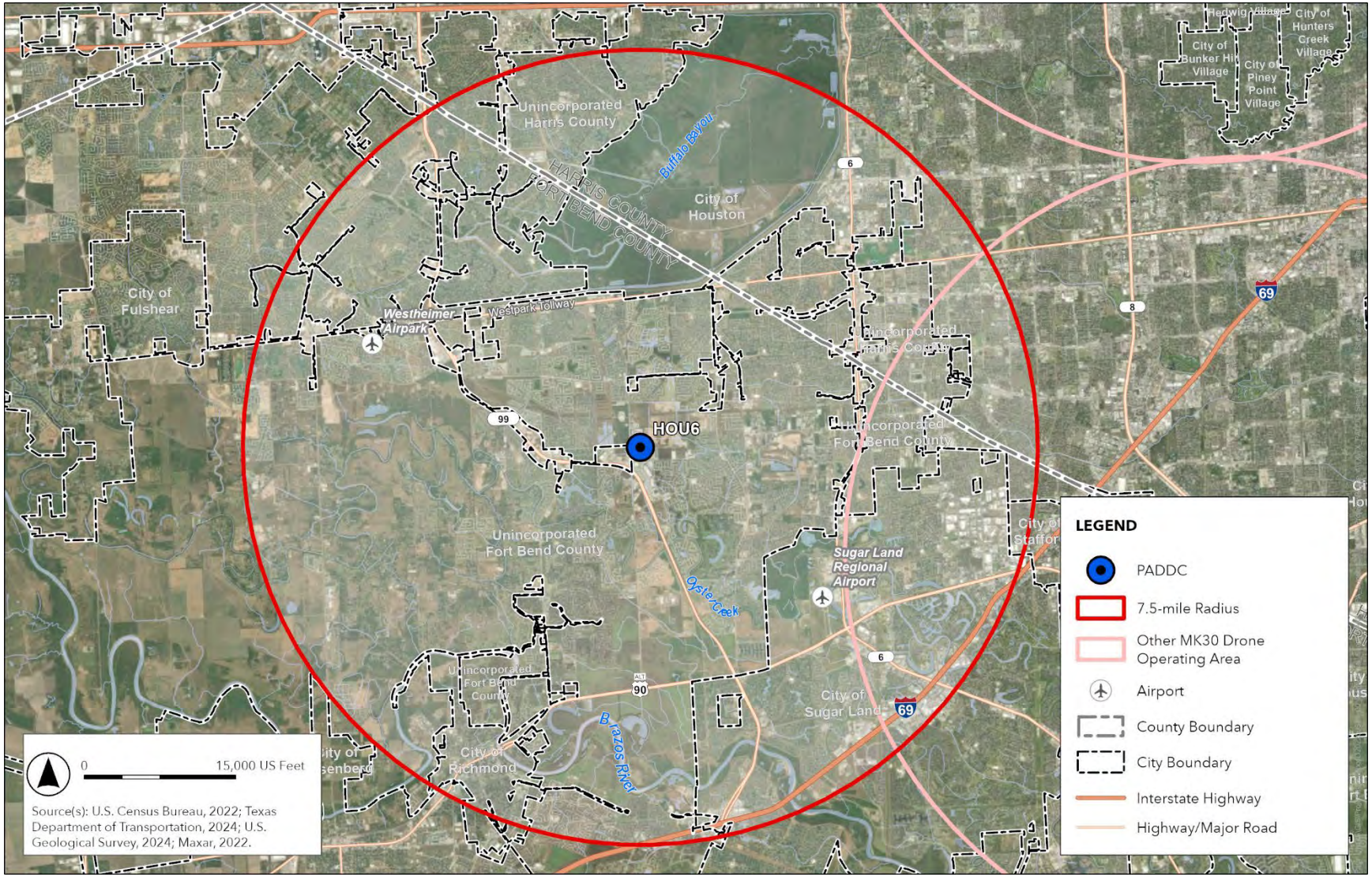
FTW4 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-40

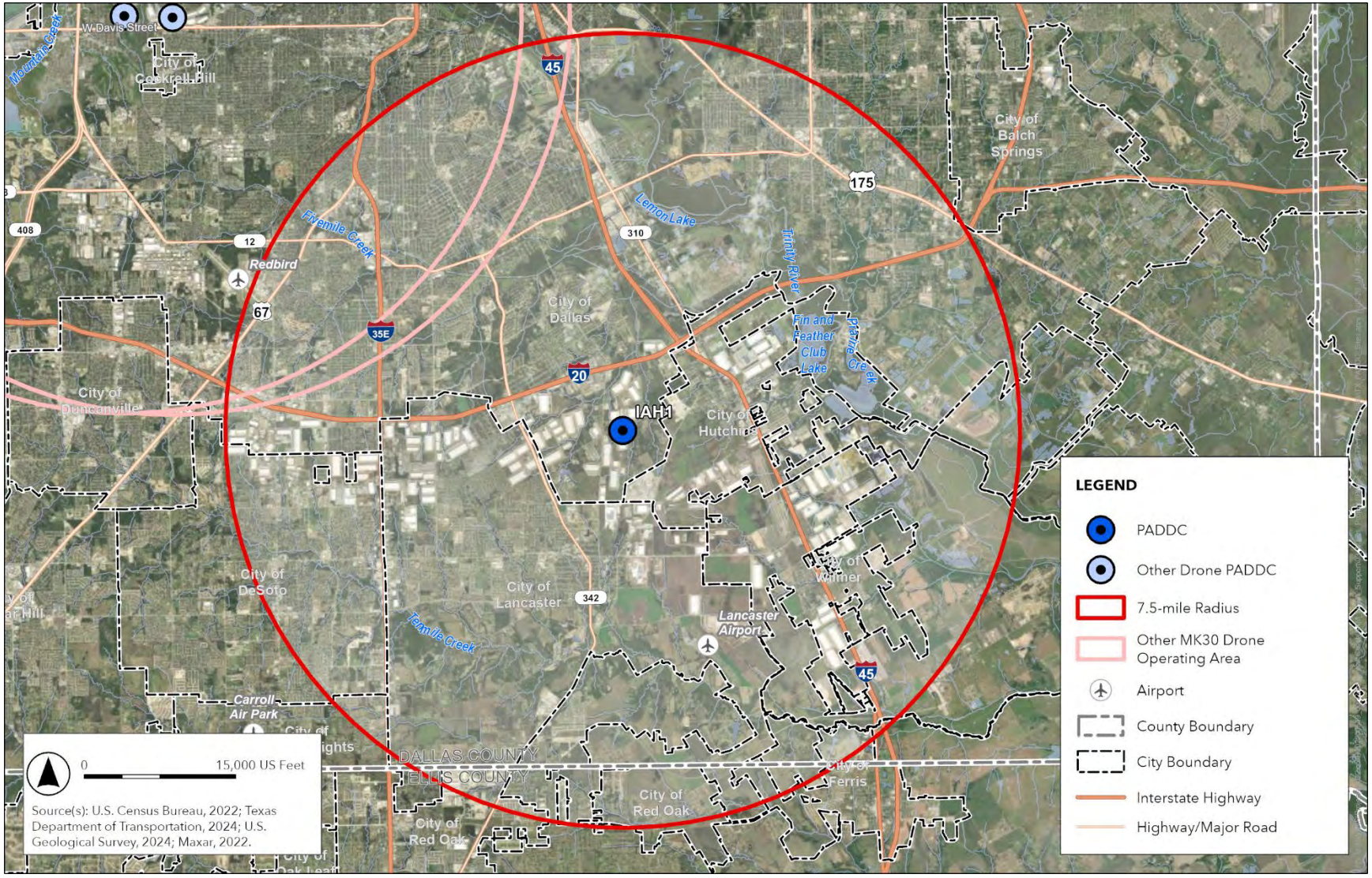
HOU2 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-41

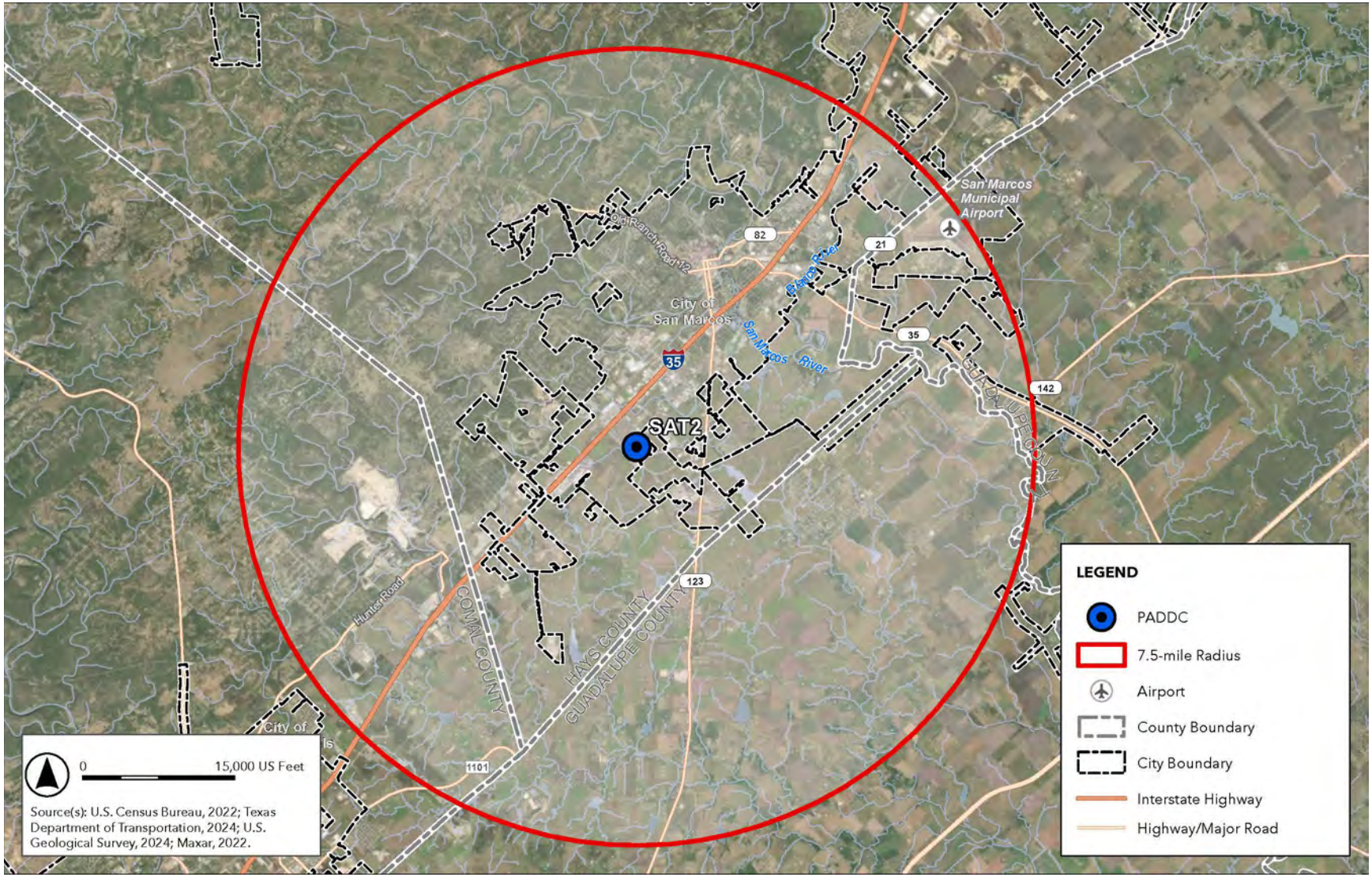
HOU6 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

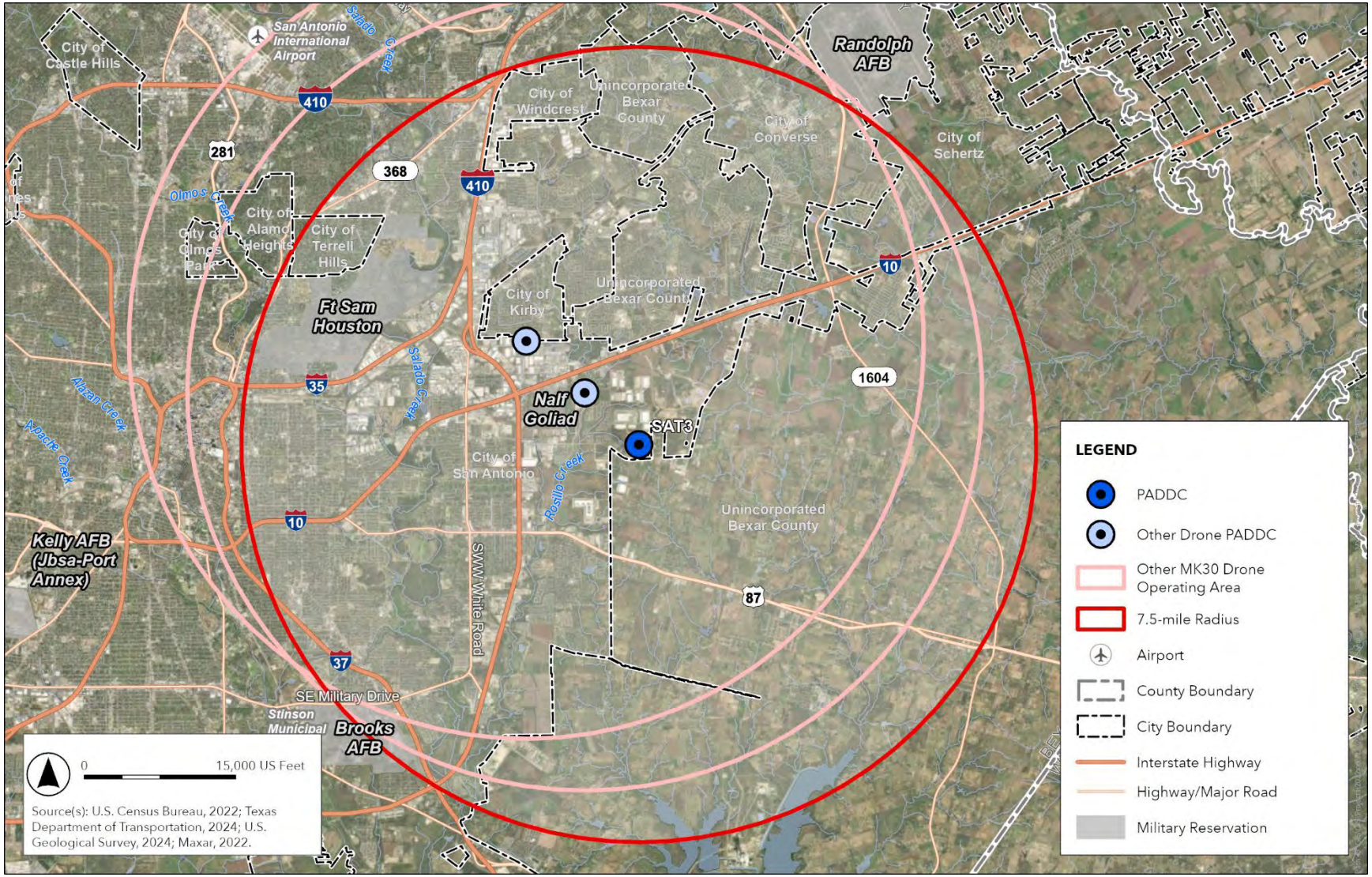
Figure A-42

IAH1 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-43
SAT2 Drone Operation Study Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure A-44

SAT3 Drone Operation Study Area

A-2 Notice of Availability

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration
Washington, D.C.

Notice of Availability, Notice of Public Comment Period, and Request for Comment on the Draft Environmental Assessment for Amazon Prime Air Package Delivery Operations in Texas

The Federal Aviation Administration (FAA) provides notice that a Draft Environmental Assessment (EA), prepared pursuant to the National Environmental Policy Act (NEPA) (42 United States Code §§ 4321 – 4355), to assess Amazon Prime Air's proposed commercial drone delivery service in Texas is available for review and comment.

Amazon Prime Air is seeking to amend its air carrier Operation Specifications (OpSpecs) and other FAA approvals necessary to expand commercial drone delivery operations in Texas. The FAA's approval of the amended OpSpecs is considered a major federal action under NEPA and requires a NEPA review. The Draft EA is submitted for review pursuant to NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303), and Section 106 of the National Historic Preservation Act (16 U.S.C. § 470). The Draft EA will be available for a 30-day public review beginning on Friday, August 15, 2025, and ending on Saturday, September 13, 2025.

The Draft EA is available for online review at:
https://www.faa.gov/uas/advanced_operations/nepa_and_drones

Comments on the Draft EA may be submitted electronically to 9-faa-drone-environmental@faa.gov. Written comments may be submitted via U.S. Mail to the address below. Please ensure adequate time for receipt. All comments must be received by 5:00 p.m. Central Time on *Saturday, September 13*, *2025*.
Federal Aviation Administration, Suite 802W

C/O AVS Environmental
800 Independence Ave SW
Washington, DC 20591

All substantive comments received will be responded to in the Final EA.

PRIVACY NOTICE: Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

This Draft EA becomes a federal document when evaluated, signed, and dated by the Responsible FAA Official.

Responsible FAA Official:

_____ Date: _____

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

DEPARTAMENTO DE TRANSPORTACIÓN

Administración Federal de Aviación

Washington, D.C.

Aviso de Disponibilidad, Aviso de Período de Comentarios Públicos, y Solicitud de Comentarios sobre el Borrador de la Evaluación Ambiental para las Operaciones de Entrega de Paquetes de Amazon Prime Air en Texas.

La Administración Federal de Aviación (FAA, por sus siglas en inglés) notifica que el Borrador de Evaluación Ambiental (EA, por sus siglas en inglés), elaborado conforme a la Ley Nacional de Política Ambiental (NEPA, por sus siglas en inglés) (Título 42 del Código de los Estados Unidos, §§ 4321 – 4355), para evaluar el servicio propuesto de entrega comercial de paquetes mediante drones de Amazon Prime Air en Texas, está disponible para revisión y comentarios.

Amazon Prime Air solicita enmendar sus Especificaciones de Operación (OpSpecs, por sus siglas en inglés) como transportista aéreo, así como otras aprobaciones de la FAA necesarias para expandir las operaciones de entrega comercial de paquetes mediante drones en Texas. La aprobación por parte de la FAA de las OpSpecs enmendadas se considera una acción federal importante conforme a NEPA y, por ende, requiere una revisión en virtud de dicha ley. El Borrador de EA se presenta para revisión de conformidad con NEPA, la Orden 1050.1 de la FAA, Impactos Ambientales: Políticas y Procedimientos, la Sección 4(f) de la Ley del Departamento de Transportación (49 U.S.C. § 303) y la Sección 106 de la Ley Nacional de Preservación Histórica (16 U.S.C. § 470). El Borrador de EA estará disponible para revisión pública durante 30 días, comenzando el viernes, 15 de agosto de 2025 y terminando el sábado, 13 de septiembre de 2025.

El Borrador de EA está disponible para revisión en línea en:
https://www.faa.gov/uas/advanced_operations/nepa_and_drones

Puede someter sus comentarios al Borrador de EA mediante vía electrónica a: 9-faa-drone-environmental@faa.gov.

También pueden someter comentarios escritos enviándolos por correo postal a la dirección que figura más abajo. Por favor, permita tiempo suficiente para su recepción. Todos los comentarios deben ser recibidos antes de las 5:00 p.m. (hora central) del sábado, 13 de septiembre de 2025.

Federal Aviation Administration, Suite 802W
C/O AVS Environmental
800 Independence Ave SW
Washington, DC 20591

Todos los comentarios sustantivos recibidos serán considerados y se dará respuesta en la EA Final.

AVISO DE PRIVACIDAD: Antes de incluir su dirección, número de teléfono, correo electrónico u otra información de identificación personal (PII, por sus siglas en inglés) en su comentario, tenga en cuenta que todo el texto – incluyendo el PII – podría divulgarse públicamente en cualquier momento. Aunque en su comentario puede solicitarnos que su PII no se divulgue durante la revisión pública, no podemos garantizar que podamos atender dicha solicitud.

El Borrador de EA se convierte en documento federal una vez evaluado, firmado y fechado por el funcionario responsable de la FAA.

Funcionario responsable de la FAA:

_____ Fecha: _____

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Appendix B

Biological Resources and Agency Consultation

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Federal Aviation Administration

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SUBJECT: Endangered Species Act Section 7 Consultation for Drone Commercial Package Delivery Operations in Texas

In accordance with Section 7 of the Endangered Species Act (ESA), the Federal Aviation Administration (FAA) is requesting U.S. Fish and Wildlife Service (USFWS) concurrence that the FAA's action of authorizing Amazon Prime Air (Prime Air) to conduct commercial drone package delivery operations from its 22 Prime Air Drone Delivery Centers (PADDCs) located throughout Texas (the Proposed Action), is ***not likely to adversely affect*** the tricolored bat (*Perimyotis subflavus*), Eastern Black Rail (*Laterallus jamaicensis spp. Jamaicensis*), Golden-Cheeked Warbler (*Setophaga chrysoparia*), Piping Plover (*Charadrius melodus*), Rufa Red Knot (*Caliris canutus rufa*), Whooping Crane (*Grus americana*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Yellow-Billed Cuckoo (*Coccyzus americanus*), Red Cockaded Woodpecker (*Dryobates borealis*), Attwater's Greater Prairie-Chicken (*Tympanuchus cupido*), and Northern Aplomado Falcon (*Falco femoralis septentrionalis*). Additionally, the Proposed Action would have ***no effect*** on monarch butterfly (*Danaus plexippus*).

Project Description

Prime Air is seeking authorization to conduct commercial package deliveries using drones throughout the state of Texas. Prime Air intends to introduce its drone delivery capabilities in 2025 and has requested the FAA to authorize the operation of its MK30 drone, so it can provide drone package delivery services across its operating area. The 22 proposed MK30 operating areas and PADDCs are depicted in **Attachment A**.

Prime Air anticipates flying up to approximately 1,000 MK30 drone flights per operating day from each of the 22 PADDCs, with each flight taking a package to a customer delivery address before returning to the PADDC. The number of flights per day would vary based on customer demand and weather conditions. Prime Air is taking an incremental approach to operations and expects to gradually ramp up to approximately 1,000 flights per day per PADDC as consumer demand increases over time. Drone flights could be conducted up to 365 days a year between 7 A.M. and 10 P.M.

Unmanned Aircraft

As pictured in **Attachment B**, the MK30 drone is a hybrid multicopter fixed-wing tail-sitter drone with six propulsors allowing it to take off and land vertically and transition to wing borne flight. Its airframe is composed of staggered tandem wings for stable wing borne flight. The drone weighs approximately 78 pounds and has a maximum takeoff weight of approximately 83 pounds, which includes a maximum package payload of 5 pounds. It has a maximum operating range of 7.5 miles (or about 15 minutes) and can fly up to 58 knots (67 miles per hour) during wing-borne flight. It uses electric power from rechargeable lithium-ion batteries and is launched vertically using powered lift and converts to using wing lift during en route flight. The MK30 is equipped with collision avoidance technology to help avoid conflicts with other aircraft and drones; however, no effective technology exists that can be used to help avoid collisions with wildlife.

Flight Operations

The MK30 drone would generally be operated at an altitude between 180 and 377 feet above ground level (AGL). The outbound en route altitude to a delivery location is expected to be flown between 180 and 279 feet AGL. The inbound en route altitude is expected to be flown between 279 and 377 feet back to the PADDC. At a delivery location, the drone would descend vertically to a stationary hover and drop a package to the ground. Once a package has been delivered, the drone would ascend vertically to the inbound transition altitude and depart the delivery area while climbing to the en route altitude to return to the PADDC. The PADDC is a controlled area wherein drone flights are launched and recovered. The drone would fly a predefined flight path that is set prior to takeoff. Flight missions would be automatically planned by Prime Air's flight planning software, which assigns, deconflicts, and routes each flight. In accordance with FAA safety requirements, the drone would avoid operating over areas with dense human populations, such as over roadways, public gathering spots, etc.

Takeoff

Once a package is loaded onto the MK30 drone and the drone is cleared for departure from the PADDC, the drone takes off from the ground vertically to an altitude of about 115 feet AGL and then transitions and climbs to its en route altitude of about 200 feet AGL (ranges from 180 and 279 feet AGL). The takeoff phase of flight would last less than one minute.

En Route Outbound

The en route outbound phase is the part of flight in which the MK30 drone transits from the PADDC to a delivery point on a predefined flight path. During this flight phase, the drone will typically operate at a typical en route altitude of 200 feet AGL with a typical airspeed of 58 knots (67 miles per hour).

Delivery

The delivery phase consists of descent from the en route altitude to a delivery point to deliver a package. The MK30 drone transitions and descends to about 140 feet AGL and then vertically descends to about 13 feet AGL while maintaining position over the delivery point. The drone hovers while dropping the package and then proceeds to climb vertically back to the inbound transition altitude of 197 feet AGL. The MK30 then transitions and climbs to its en route inbound altitude of 345 feet AGL (ranges from 279 to 377 feet AGL). The delivery phase of flight would last approximately one minute.

En Route Inbound

The MK30 drone continues to fly at a typical en route altitude of about 345 feet AGL with a speed of 58 knots towards the PADDC.

Landing

The drone decelerates as it approaches the PADDC and descends to the transition altitude of 197 feet AGL and where it transitions from horizontal flight to vertical flight, coming to a zero-speed position over its assigned landing pad. The MK30 drone slowly descends over its assigned landing pad and lands on the pad.

Predicted Sound Levels

Based on a noise analysis using sound level measurement data for the MK30 drone, the estimated maximum sound exposure level (SEL) for the takeoff, delivery, and landing phases of flight is approximately 90.5 (at 20 feet), 92.1 (at 25 feet), and 91.8 dB (at 20 feet), respectively. Predicted sound levels decrease as distances from the drone increase. The maximum SEL for the en route phase is approximately 63.7 dB when the drone at an altitude of 200 feet AGL and flying at approximately 58 knots (67 miles per hour). The detailed noise analysis is provided as **Attachment C**.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR § 402.02). For this Proposed Action, the action areas are defined as Prime Air's 22 proposed MK30 operating areas, as depicted in Attachment A. These areas capture all possible flight routes to the delivery areas and where potential effects (e.g., visual, auditory, physical) to listed species could occur.

The action area falls into six different ecoregions. The western PADDC location is within the Chihuahuan Desert region characterized predominantly with semi-desert grassland and arid shrubland, except for high elevation islands of oak, juniper, and pinyon pine woodland. The ecoregion along the southern coast, Gulf Coast Prairies and Marshes, is relatively flat topography and mainly grassland potential natural vegetation. The Western Gulf Coastal Plain ecoregion is mostly irregular plains and represents the western edge of the southern coniferous forest belt. Once blanketed by a mix of pine and hardwood forests, much of the region is now in loblolly and shortleaf pine plantations. The Texas Blackland Prairies is grasses including little bluestem, big bluestem, yellow Indiangrass, and switchgrass. This region now contains a higher percentage of cropland than adjacent regions; pasture and forage production for livestock is common. The Edwards Plateau is dominated by juniper-oak savanna and mesquite-oak savanna. Most of the region is used for grazing beef cattle, sheep, goats, exotic game mammals, and wildlife. The Cross Timbers ecoregion is a transitional area between the once prairie, now winter wheat growing regions to the west, and the forested low mountains or hills of eastern Oklahoma and Texas.

As indicated above, the Proposed Action would take place over high to medium density developed urban and commercial areas, and some rural and agricultural areas scattered throughout the action area. Therefore, wildlife habitats within the action area predominantly include parks, a few open spaces, waterways, and vacant lands. These areas provide habitat for many of the more common and ubiquitous bird and mammal species in the region, including white-tailed deer, eastern gray squirrels, eastern cottontails, raccoons, armadillos, mice, badgers, songbirds, raptors, waterfowl, and insects.

ESA-Listed Species and Critical Habitat in the Action Area

The FAA acquired the Official Species Lists (see **Attachment D**) from the USFWS Information for Planning and Conservation (IPaC) online system to identify ESA-listed, proposed-listed, and candidate species within the action area. Based on earlier coordination with USFWS, of the species identified in the IPaC review only 12 species may be affected by the drone operations. These are listed below in **Table 1** by the USFWS Ecological Field Office. The remaining species have limited habitat within the action area and include many cave-dwelling and aquatic species which would not be affected. These species include: alligator snapping turtle (*Macrochelys temminckii*), Austin blind salamander (*Eurycea waterlooensis*), Balcones spike (*Fusconaia iherngi*), beetles (*Rhadine exilis*) and (*Rhadine infernalis*), Bone Cave harvestman (*Texella reyes*), bracted twistflower (*Streptanthus bracteatus*), Coffin Cave mold beetle (*Batrisodes texanus*), Cokendolpher Cave harvestman (*Texella cokendolpheri*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterelmis comalensis*), false spike (*fusconaia mitchelli*), fountain darter (*Etheostoma fonticola*), Government Canyon Bat Cave meshweaver (*Cicurina vespera*), Government Canyon Bat Cave spider (*Tayshaneta microps*), green sea turtle (*Chelonia mydas*), Guadelupe fatmucket (*Lampsilis bergmanni*), Guadalupe orb (*Cyclonaisa necki*), hawksbill sea turtle (*Eretmochelys imbricata*), Helotes mold beetle (*Batrisodes venyivi*), Jollyville Plateau salamander (*Eurycea tonkawae*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), Madla Cave meshweaver (*Cicurina madla*), Mexican Spotted Owl (*Strix occidentalis lucida*), Northern Aplomado Falcon (*Falco femoralis septentrionalis*), Peck's Cave amphipod (*Stygobromus pecki*), Robber Baron Cave meshweaver (Cicurina baronia), San Marcos salamander (*Eurycea nana*), Sneed pincushion cactus (*Coryphanhta sneedii* var *sneedii*), Texas blind salamander (*Eurycea rathbuni*), Texas fatmucket (*Lampsilis bracteata*), Texas fawnsfoot (*Truncilla macrodon*), Texas heelsplitter (*Potamilus amphichaenus*), Texas pimpleback (*Cyclonaias petrina*), Texas prairie dawn-flower (*Hymenoxys texana*), Texas wild-rice (*Zizania texana*), Tooth Cave ground beetle (*Rhadine persephone*), Tooth Cave spider (*Tayshaneta myopica*), and the West Indian manatee (*Trichechus manatus*).

Table 1. ESA-Listed Species, Species Proposed for Listing, and Candidate Species Potentially Present which may be affected in the Action Areas by USFWS Ecological Field Office

Arlington Ecological Services Field Office (DAL3, DFW7, FTW4, IHA1, STX2, STX3, STX8)

Species	Common Name	Species Name	Federal Status	Critical Habitat
Mammals	Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	N
Birds	Golden-Cheeked Warbler	*Setophaga chrysoparia*	Endangered	N
	Piping Plover	*Charadrius melodus*	Threatened	N
	Rufa Red Knot	*Caliris canutus rufa*	Threatened	N
	Whooping Crane	*Grus americana*	Endangered	N
Insects	Monarch butterfly	*Danaus plexippus*	Candidate Species	N

Austin Ecological Services Field Office (AUS2, AUS3, ELP1, SAT2, SAT3, STX6, STX7, STX9)

Species	Common Name	Species Name	Federal Status	Critical Habitat
Mammals	Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	N
Birds	Golden-Cheeked Warbler	*Setophaga chrysoparia*	Endangered	N
	Piping Plover	*Charadrius melodus*	Threatened	N
	Rufa Red Knot	*Caliris canutus rufa*	Threatened	N
	Whooping Crane	*Grus americana*	Endangered	N
	Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Endangered	N
	Yellow-Billed Cuckoo	*Coccyzus americanus*	Threatened	N
	Northern Aplomado Falcon	*Falco femoralis septentrionalis*	Endangered	N
Insects	Monarch butterfly	*Danaus plexippus*	Candidate Species	N

Texas Coastal and Central Plains Ecological Services Field Office (HOU2, HOU6, SAH1, SAHx, SATx, STX4, STX5)

Species	Common Name	Species Name	Federal Status	Critical Habitat
Mammals	Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	N
Birds	Eastern Black Rail	*Laterallus jamaicensis ssp. Jamaicensis*	Threatened	N
	Piping Plover	*Charadrius melodus*	Threatened	N
	Rufa Red Knot	*Caliris canutus rufa*	Threatened	N
	Whooping Crane	*Grus americana*	Endangered	N
	Red Cockaded Woodpecker	*Dryobates borealis*	Threatened	N
	Attwater's Greater Prairie-Chicken	*Tympanuchus cupido*	Endangered	N
Insects	Monarch butterfly	*Danaus plexippus*	Candidate Species	N

SOURCE: USFWS IPaC, accessed May 2025.

Potential Effects of the Proposed Action on ESA-Listed and Candidate Species

Drone noise, visual presence, and the potential for airborne strikes with flying species are the Proposed Action's potential stressors or threats to ESA-listed species. Flight operations would take place mostly in an urban environment, within airspace, and typically remain well above the tree line while en route to and from the PADDC. The duration of exposure by wildlife on the ground to visual or noise impacts from the drone would be of very short duration (approximately 30 seconds during takeoff/landing and delivery and a few seconds during the en route phase).

As noted above, the highest estimated SEL associated with Prime Air's proposed operations is 92.1 dB, which would occur during a delivery. For reference, the sound level of a diesel truck at 50 feet or a noisy urban environment during the day is approximately 80 to 90 dB. The SEL on the ground when the drone is at an altitude of 200 feet AGL is estimated to be around 63.7 dB, which is comparable to the sound of an air conditioning unit at 100 feet (60 dB). The MK30 drone is expected to operate at altitudes higher than 200 feet AGL during en route flight; as such, the en route sound level is expected to be less than 63.7 dB.

A descriptor for noise effects on wildlife has not been universally adopted, but some research indicates SEL is the most useful predictor of responses. Characteristic of the bulk of research to date has been lack of systematic documentation of the source noise event. Many studies report "sound levels" without specifying the frequency spectrum or duration. A notable exception is a study sponsored by U.S. Air Force that identifies SEL as the best descriptor for response of domestic turkey poults to low-altitude aircraft overflights (Bradley et al. 1990). This study identified a threshold of response for disturbance of domestic turkeys ("100 percent rate of crowding") as SEL 100 dB. None of the predicted sound levels for the different flight phases exceed SEL 92.1 dB.

The following paragraphs describe the anticipated effects of the Proposed Action on the ESA-listed and candidate species, as listed in **Table 1**.

Tricolored bat

The tricolored bat is a federally protected species that could be located within the action area. The Proposed Action would occur during the dusk emergence of bat activity during the evening civil twilight hours; however, drone service would not affect the dawn civil twilight hours. Research suggests that drones have "minimal impact on bat and owl behavior" (Fu, Y., M. Kinniry, and L.N. Kloepper. 2018). and that bats do not appear to be disturbed by drones (August, T. and T. Moore. 2008). Also, the risk of bat conflicts is only present for 3 to 6 months each year (i.e., when bats are not hibernating). Bats at roost or in flight could experience drone noise during the en route and delivery flight phases. When foraging at or near the tree line at the time a drone flies by, bats would experience the greatest sound levels. Roosting bats or bats foraging near the ground at the time a drone flies by would experience lower sound levels. Given the estimated sound levels of the drone, the drone's linear flight profile to and from nests and delivery locations, the short period of time the drone would be in any particular location, and the low probability of encountering an individual bat in the action area, drone noise is not expected to adversely affect the above referenced bat species. Any increase in ambient sound levels caused by the drone's flight would only last a few seconds during the en route phase and approximately 49 seconds during a delivery.

The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the tricolored bat based on:

1) operations occurring mostly in an urban environment,

2) the altitude at which the drone flies in the en route phase (180 to 377 feet AGL),

3) the expected low sound levels experienced by a bat,

4) the short duration of any increases in ambient sound levels,

5) the low probability of a listed bat species occurring in the action area, and

6) the low likelihood of the drone striking a bat.

Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Golden-cheeked Warbler

Golden-Cheeked Warblers (*Setophaga chrysoparia*) are a small, yellow-cheeked bird with black and white plumage. They nest only in central Texas mixed Ashe-juniper and oak woodlands in ravines and canyons. Warblers eat insects and spiders found on the leaves and bark of oaks and other trees. They use long strips of cedar bark and spider webs to build their nests. They come to Texas in March to nest and raise their young and leave in July to spend the winter in Mexico and Central America. The Golden-Cheeked Warbler is the only one warbler that nests exclusively in Texas. The proposed action areas are largely located within urban areas with no disturbance anticipated to oak woodlands. The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Golden-Cheeked Warbler.

Eastern Black Rail

The Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*) is a sparrow size, secretive marsh bird, and the smallest rail in North America. They require dense vegetative cover that allows movement underneath the canopy and can be found in a variety of salt, brackish, and freshwater marsh habitats that can be tidally or non-tidally influenced. Nesting in Texas begins in March. The proposed action areas are largely located within urban areas with no disturbance anticipated to marsh wetlands. The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Eastern Black Rail.

Rufa Red Knot

Rufa Red Knot (*Calidris canutus rufa*) is stocky, medium-sized shorebird with relatively short bill and have a proportionately small head, small eyes, and short neck, and a black bill that tapers from a stout base to a relatively fine tip. Coastal habitats such as estuarine and marine habitats are used by the Red Knot as well as muddy or sandy coastal areas, specifically, bays and estuaries, tidal flats, and unimproved tidal inlets. Along the U.S. Atlantic coast, dynamic and ephemeral features are important Rufa Red Knot habitats, including sand spits, islets, shoals, and sandbars, features often associated with inlets. The Proposed Action is not expected to occur along coastal areas utilized by the Red Knot therefore, The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Rufa Red Knot.

Whooping Crane

Whooping Cranes (*Grus americana*) are the tallest birds in North America. Whooping Cranes are white with rust-colored patches on top and back of head, lack feathers on both sides of the head, yellow eyes, and long, black legs and bills. Their primary wing feathers are black but are visible only in flight. Although they breed in Canada during the summer months, Whooping Cranes migrate to Texas' coastal plains near Rockport, in

and around Aransas National Wildlife Refuge, from November through March. Whooping Cranes migrate throughout the central portion of the state from the eastern panhandle to the DFW area and south through the Austin area to the central coast during October-November and again in April. The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Whooping Crane, based on:

1) operations occurring mostly in an urban environment,

2) the altitude at which the drone flies in the en route phase (180–377 feet AGL),

3) the expected low sound levels experienced by a Whooping Crane,

4) any increase in ambient sound levels would be short in duration,

5) the low probability of a Whooping Crane occurring in the action area, and

6) the low likelihood of the drone striking a Whooping Crane,

Any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Southwestern Willow Flycatcher

The Southwestern Willow Flycatcher (*Empidonax traillii*) is a small passerine, or perching bird, It has a brownish-olive to gray-green upper body, a whitish throat contrasting with a pale olive breast, a pale yellow belly, and two light wing bars. The Southwestern Willow Flycatcher requires dense habitats with cottonwood/willow and tamarisk vegetation. Saturated soils, standing water or nearby streams, pools are known nesting habitat. Willow Flycatchers move through Texas from very late April to early June. South-bound migrants move through from Texas late July to early October. Breeding in Texas probably occurred in June and July. The Proposed Action is not expected to occur within densely wooded areas utilized by the species; therefore, The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Southwestern Willow Flycatcher.

Yellow-Billed Cuckoo

The Yellow-Billed Cuckoo (*Coccyzus americanus*) has a lower mandible that is yellow with a black upper bill that curves slightly downward. Head, neck, back and upper wings are brown, with a white chin, breast and belly. The varied diet includes insects (especially hairy caterpillars and cicadas) bird eggs, snails, small frogs, lizards, berries, and some fruit. They prefer open woodlands with dense undergrowth, overgrown orchards and pastures, moist thickets and willow groves along stream banks. The Proposed Action is not expected to occur within wooded areas utilized by the species; therefore, The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Yellow-Billed Cuckoo.

Red Cockaded Woodpecker

The Red Cockaded Woodpecker (*Leuconotopicus borealis*) is barred with black and white horizontal stripes. It has a black cap and nape that encircles large white cheek patches. The male has a small red streak on each side of its black cap. Red-Cockaded Woodpeckers roost and nest in cavities of live pine trees. The Proposed

Action is not expected to occur within wooded areas utilized by the species; therefore, The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Red Cockaded Woodpecker.

Attwater's Prairie Chicken

The Attwater's Prairie Chicken (*Tympanuchus cupido*) is a small, brown bird about 17 inches long, with short, rounded, dark tail. Males have large orange air sacs on the sides of their necks. Attwater's Prairie Chickens live on coastal prairie grasslands with tall grasses such as little bluestem, Indian grass, and switchgrass. The birds like a variety of tall and short grasses in their habitat. The proposed action areas are largely located within urban areas with no disturbance anticipated to prairie grasslands. The FAA has determined that the Proposed Action is ***not likely to adversely affect*** the Attwater Prairie Chicken.

Monarch butterfly

The monarch butterfly (*Danaus plexippus*), a candidate for federal listing, has the potential to occur in the action areas. Information regarding drone impacts on insects is limited and there have been no widespread negative impacts identified in scientific literature. Some research shows that monarch butterflies are not commonly observed at higher altitudes (generally between 1 and 300 feet) and would not be expected to frequently occur at the altitudes where Prime Air is proposing to operate (Altitudes Attained by migrating Monarch Butterflies, 2024). Therefore, it is anticipated that the Proposed Action will have ***no effect*** on the monarch butterfly.

Conclusion

Based on the analysis above, the FAA has determined the following:

- There is no critical habitat located within the action areas for any species listed in Table 1 above,
- The action areas are mostly urbanized, with minimal suitable habitat for the ESA-listed species identified in them.
- Any increase in ambient sound levels would be short in duration.
- Drone dwell/hover time during takeoff and delivery would be less than one minute.
- Drones would generally operate at an altitude between 200 and 345 feet AGL.
- Drone activity would be highly concentrated over developed areas, where there is consumer demand for drone delivery service.
- Based on all of these factors, the probability of a drone/wildlife interaction would be low.

It is important to note that Prime Air has been performing similar drone delivery operations at its College Station, TX facility, for more than two years. A recent assessment of drone maintenance and telemetry records indicates zero instances of drone/wildlife collisions over the course of more than 8,000 delivery operations.

Accordingly, the FAA has determined the Proposed Action is ***not likely to adversely affect*** the tricolored bat (*Perimyotis subflavus*), Eastern Black Rail (*Laterallus jamaicensis spp. Jamaicensis*), Golden-Cheeked Warbler (*Setophaga chrysoparia*), Piping Plover (*Charadrius melodus*), Rufa Red Knot (*Caliris canutus rufa*), Whooping Crane (*Grus americana*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Yellow-Billed Cuckoo (*Coccyzus americanus*), Red Cockaded Woodpecker (*Dryobates borealis*), Attwater's Greater Prairie-Chicken (*Tympanuchus cupido*), and Northern Aplomado Falcon (*Falco femoralis septentrionalis*). Additionally, the Proposed Action would have ***no effect*** on monarch butterfly (*Danaus plexippus*).

Because the delivery of commercial goods by drones is an emerging technology and its potential effects on wildlife are still not well understood, Prime Air is proposing to implement a "Biological Monitoring Program" for this project, which would include:

- Record and analyze daily maintenance and telemetry records to document any potential drone/wildlife interactions,
- If applicable, report wildlife movement / activity in and around airport property that may be obtained from operations or wildlife management staff from nearby airports.
- If applicable, recover and analyze potential biological materials (e.g., snarge, feathers, etc.), generally in accordance with existing protocols used in cases of aircraft bird strikes at airports, and
- Report findings to the USFWS on an annual basis.

The proposed Biological Monitoring Program would serve as a useful tool for Prime Air, the FAA, and USFWS to better understand the possible interactions between drones and wildlife.

The FAA appreciates your review of the proposed project and requests your concurrence with (1) our "may affect" determination as stated above and (2) implementation of the proposed Biological Monitoring Program within 30 days of receiving this letter. If you have any questions, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov.

Sincerely,

JOSEPH K HEMLER JR. Digitally signed by JOSEPH K HEMLER JR. Date: 2025.06.11 09:19:18 -04'00'

Joseph Hemler
Manager, General Aviation and Commercial Branch (AFS-752)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Attachments:
Attachment A – Proposed MK30 Operating Areas
Attachment B – MK 30 Drone
Attachment C – Technical Noise Report
Attachment D – Official Species List

References

Altitudes attained by migrating monarch butterflies, Danaus p. plexippus (Lepidoptera: Danaidae), as reported by glider pilots. Available: https://cdnsciencepub.com/doi/abs/10.1139/z81-084. Accessed April 2022 and February 2024.

August, T. and T. Moore. 2008. Autonomous Drones Are a Viable Tool for Acoustic Bat Surveys. Available: https://www.biorxiv.org/content/10.1101/673772v1.full.pdf. Accessed July 2023 and February 2024.

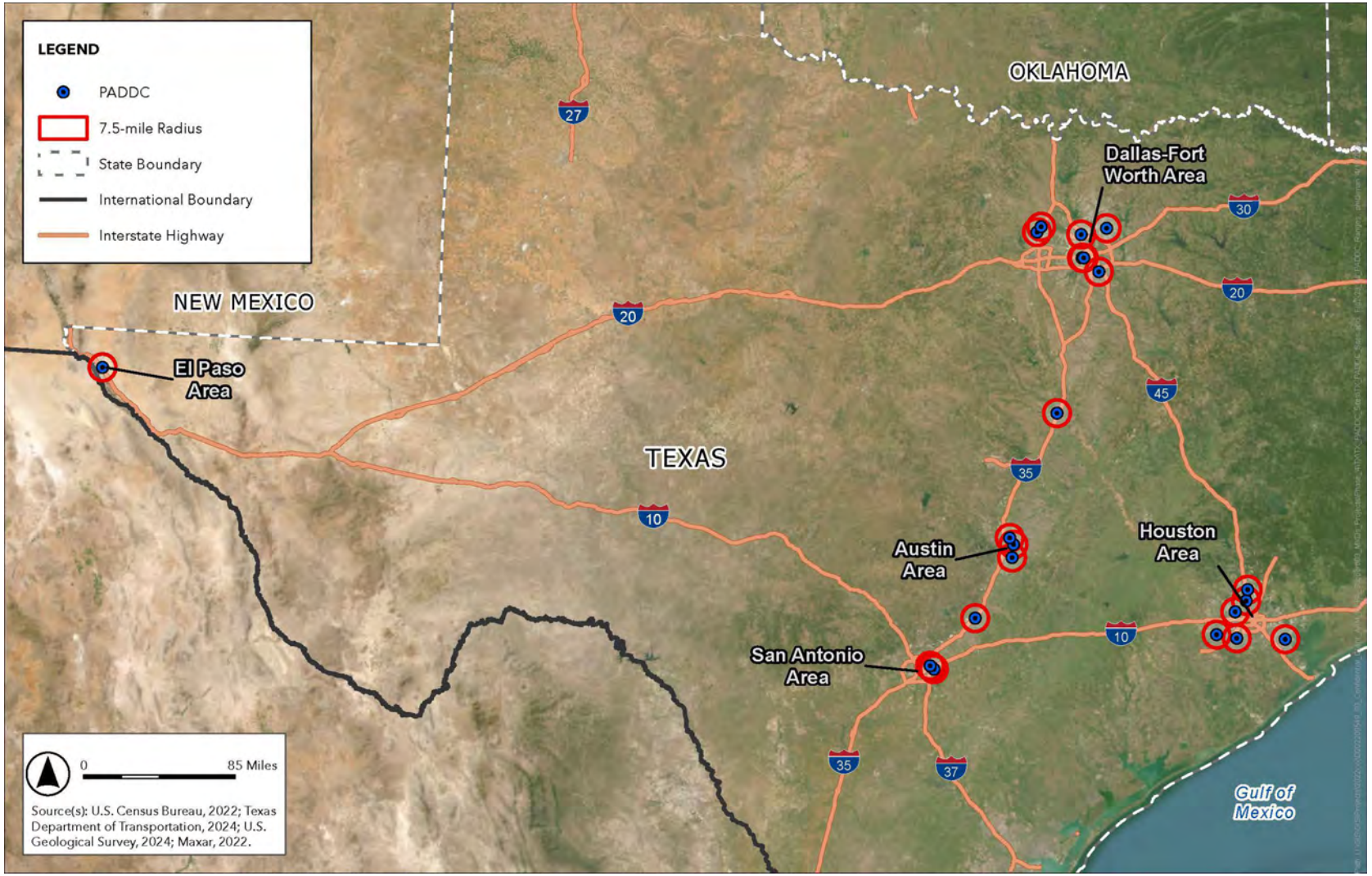
Fu, Y., M. Kinniry, and L.N. Kloepper. 2018. The Chirocopter: A UAV for Recording Sound and Video of Bats at Altitude. Methods in Ecology and Evolution 9(6):1531-1535. Available: https://doi.org/10.1111/2041-210x.12992

iNaturalist. Available at: https://www.inaturalist.org/places/united-states. Accessed November 2024.
International Crane Foundation https://savingcranes.org/species/whooping-crane/, accessed December 2024.

U.S Fish and Wildlife Service – Eastern Black Rail. https://www.fws.gov/species/eastern-black-rail-laterallus-jamaicensis-jamaicensis. Accessed April 2025.

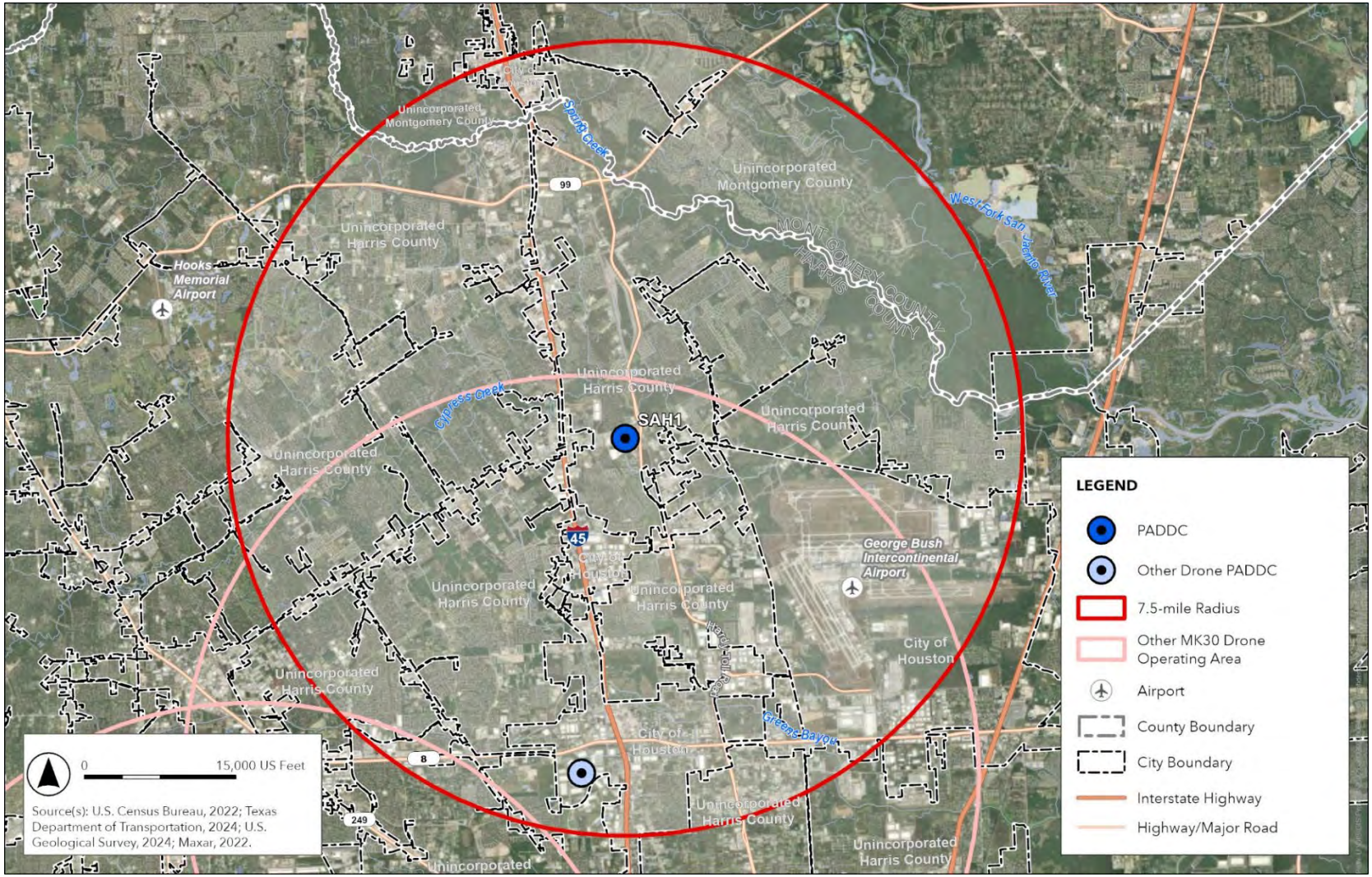
Attachment A

Proposed MK30 Operating Areas



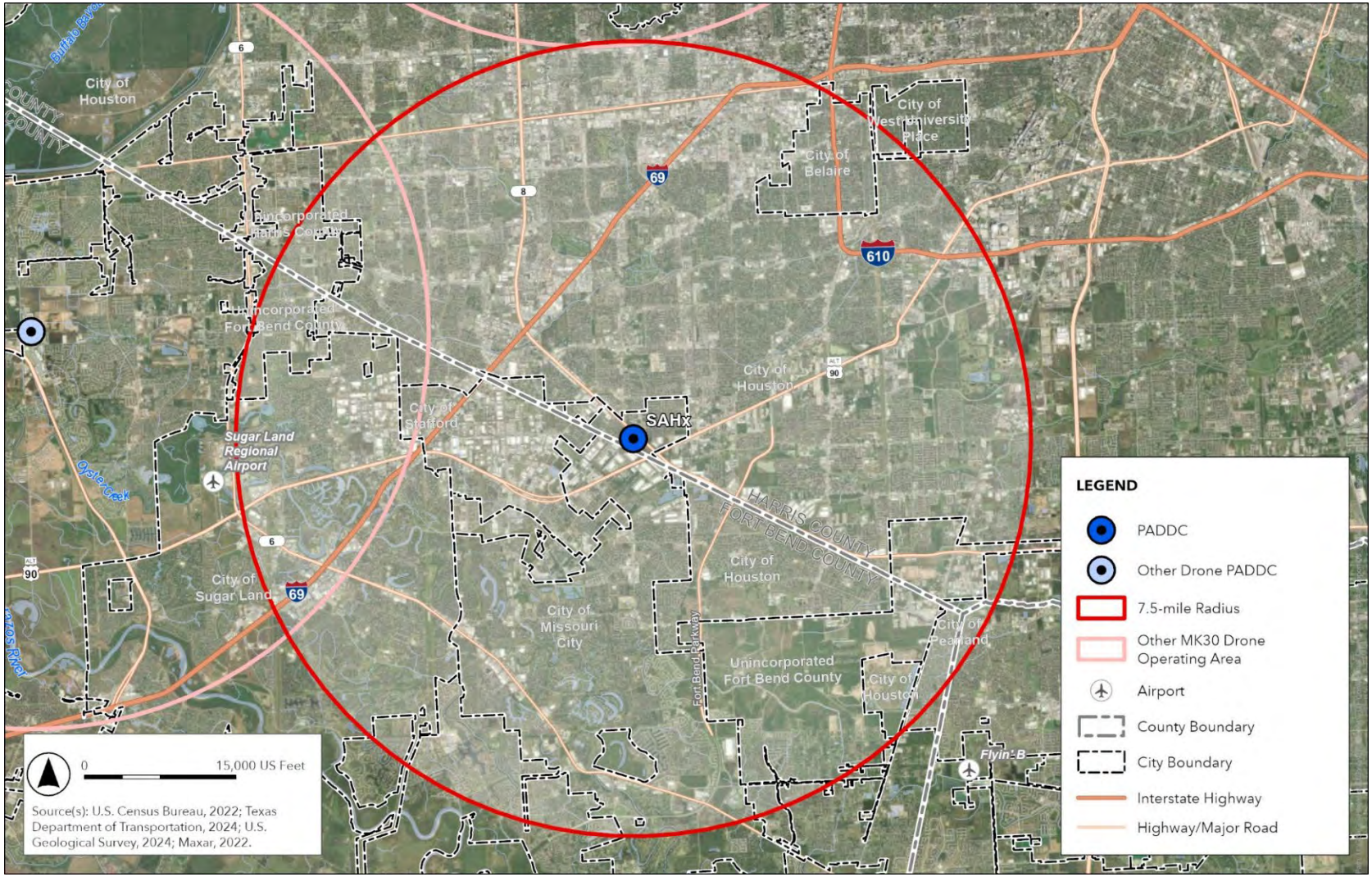
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; US Geological Survey, 2024; Maxar, 2022.

Figure 1
Action Areas – All PADDCs



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024 Maxar, 2022.

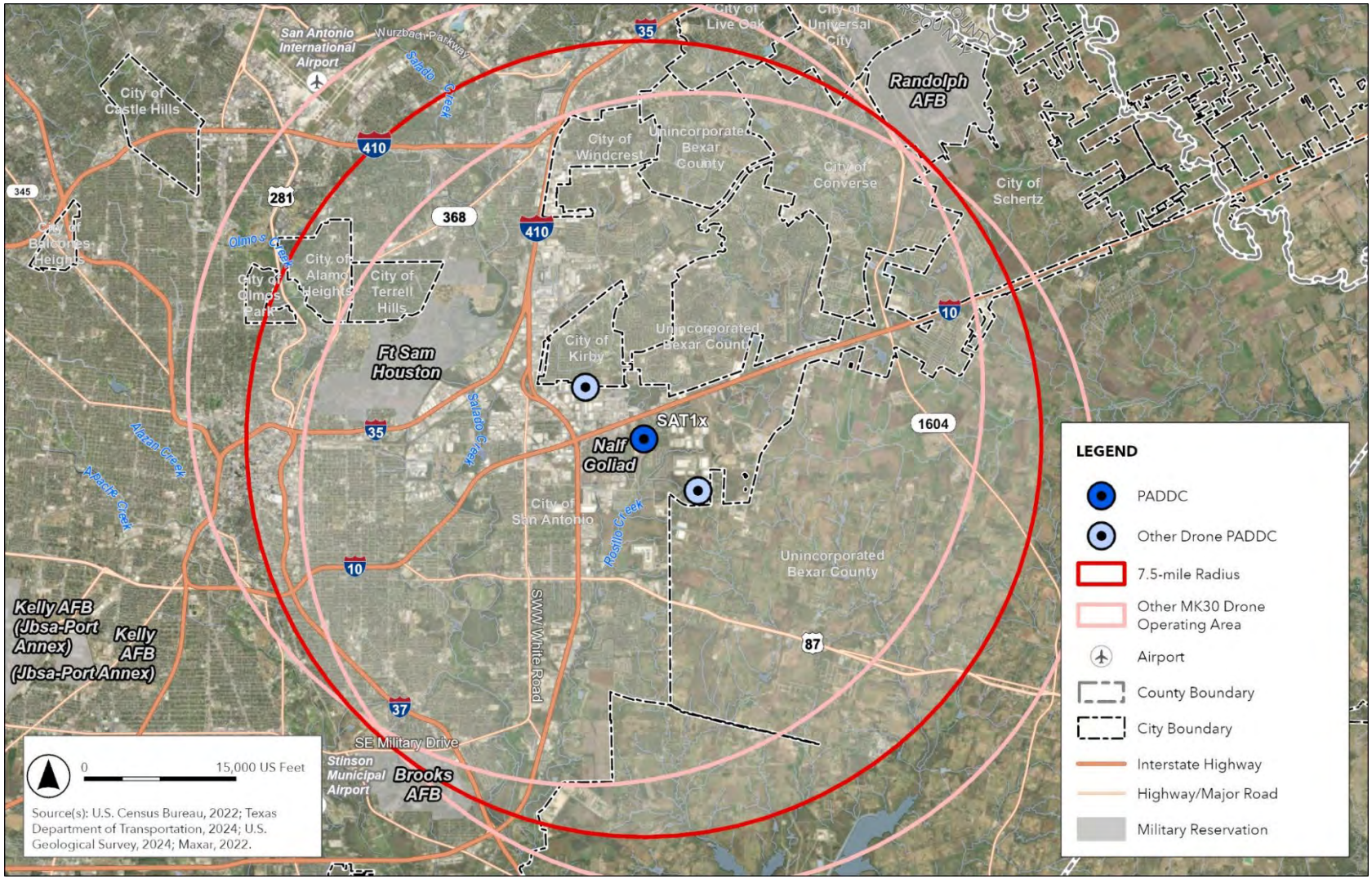
Figure 2
SAH1 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 3

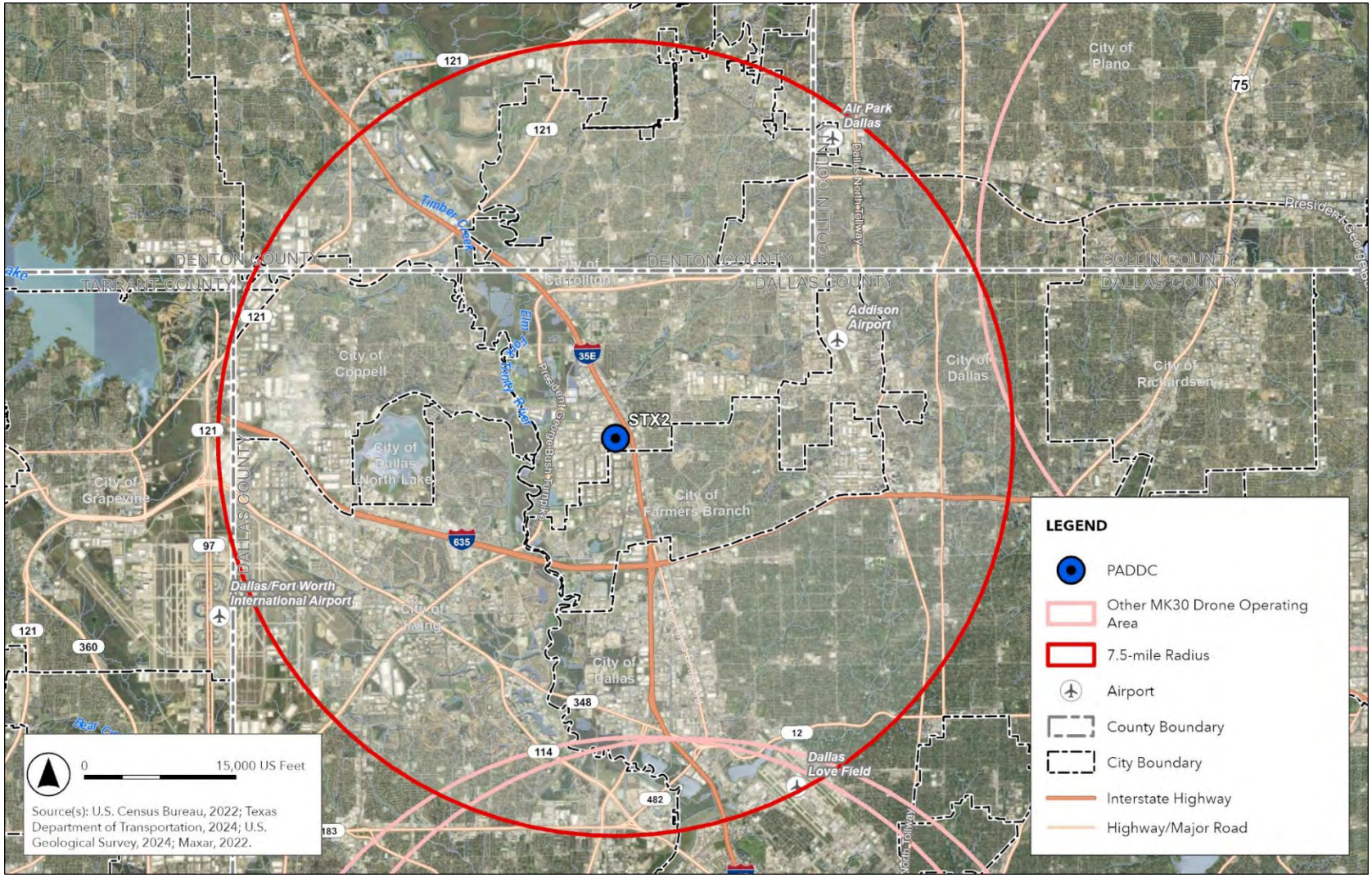
SAHx Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 4

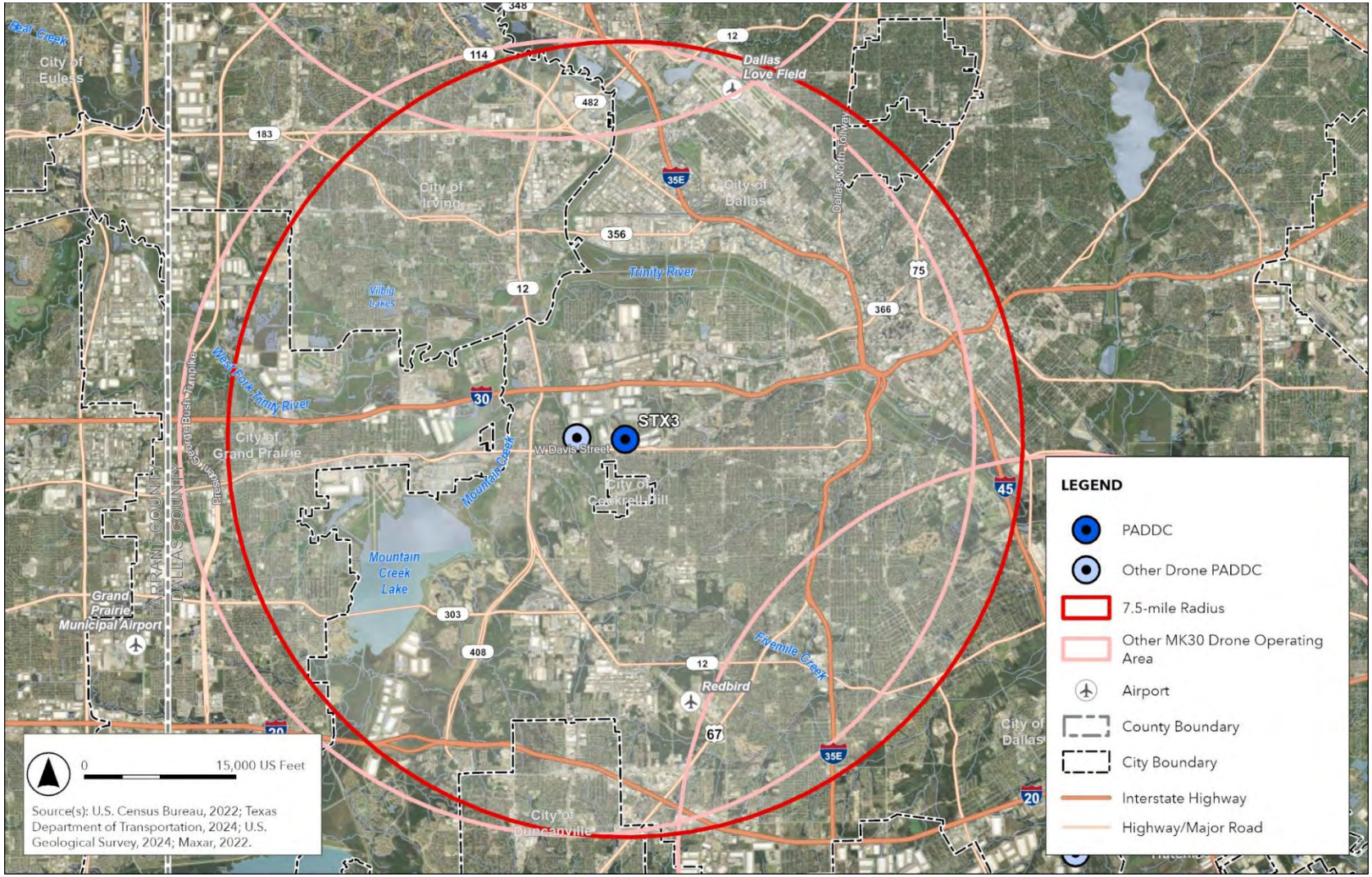
SAT1x Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 5

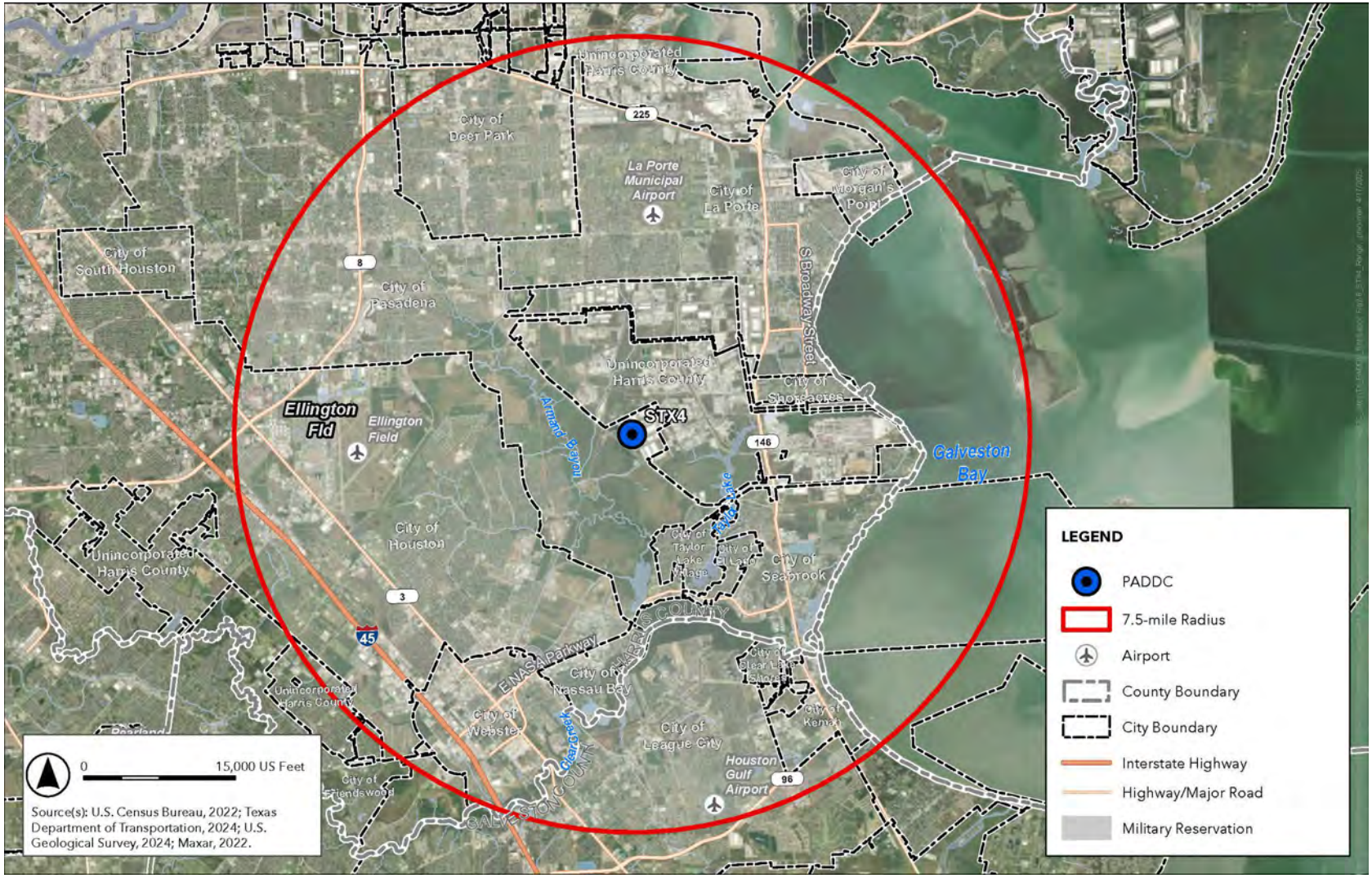
STX2 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

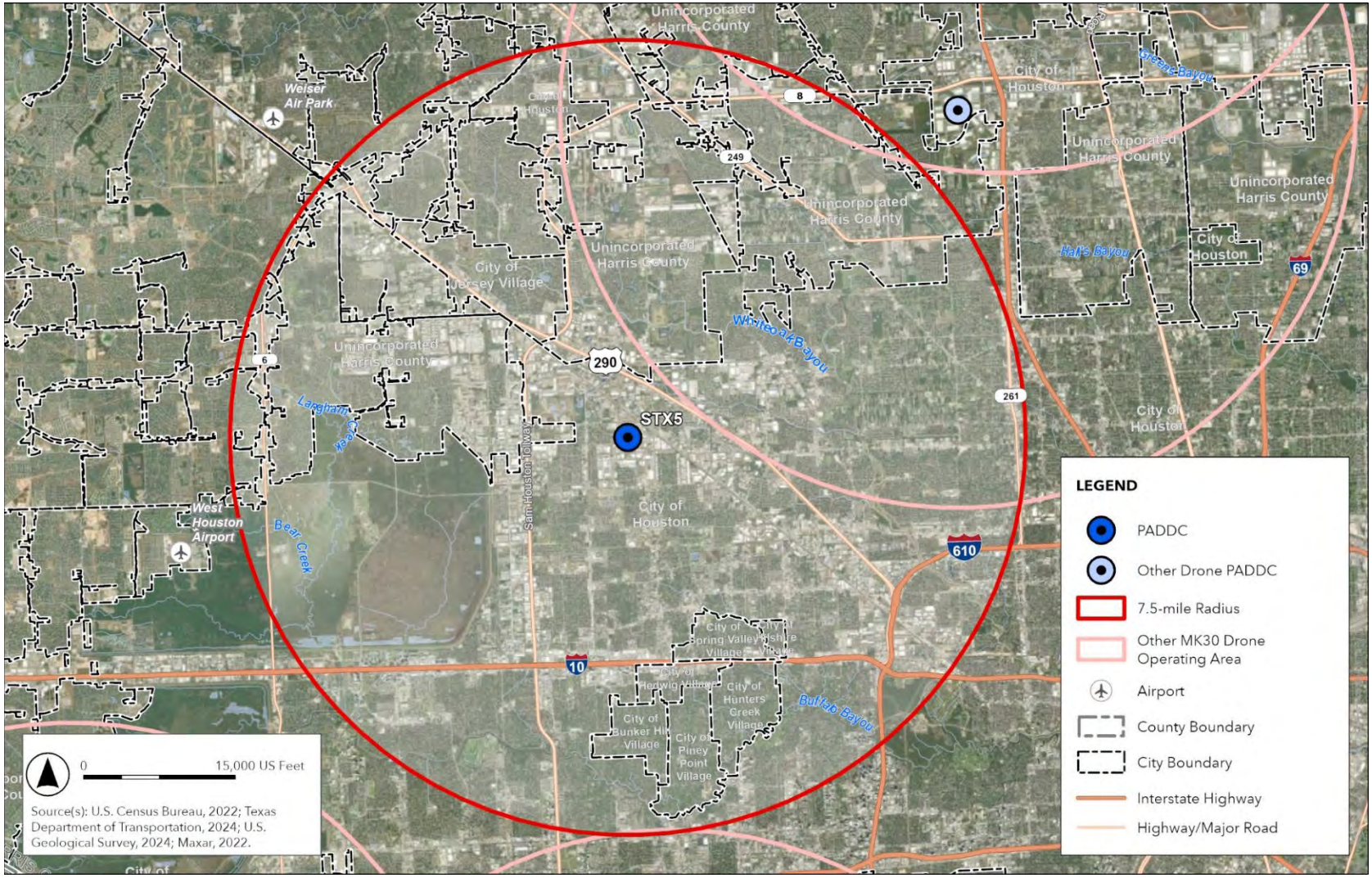
Figure 6

STX3 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

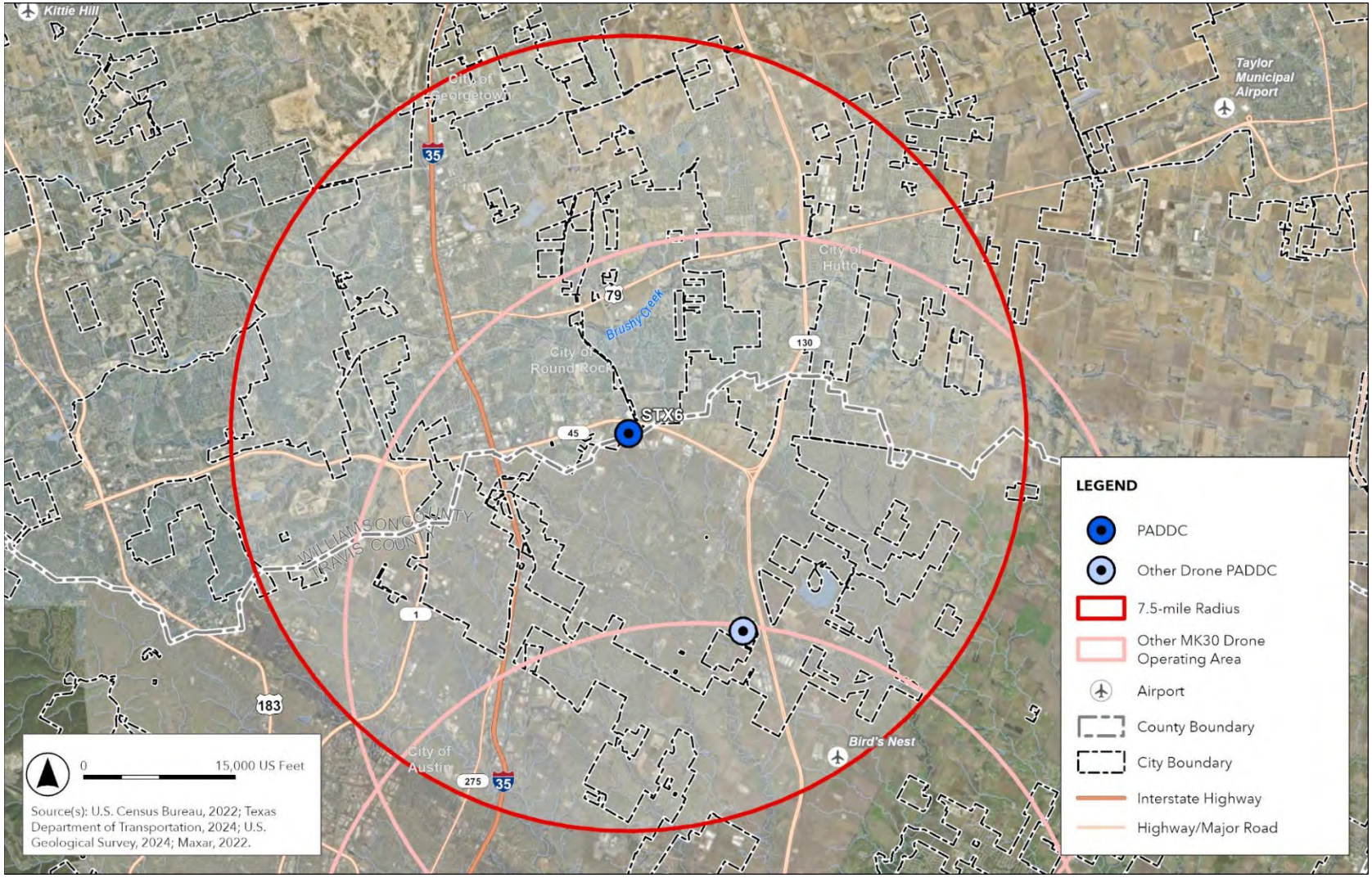
Figure 7
STX4 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 8

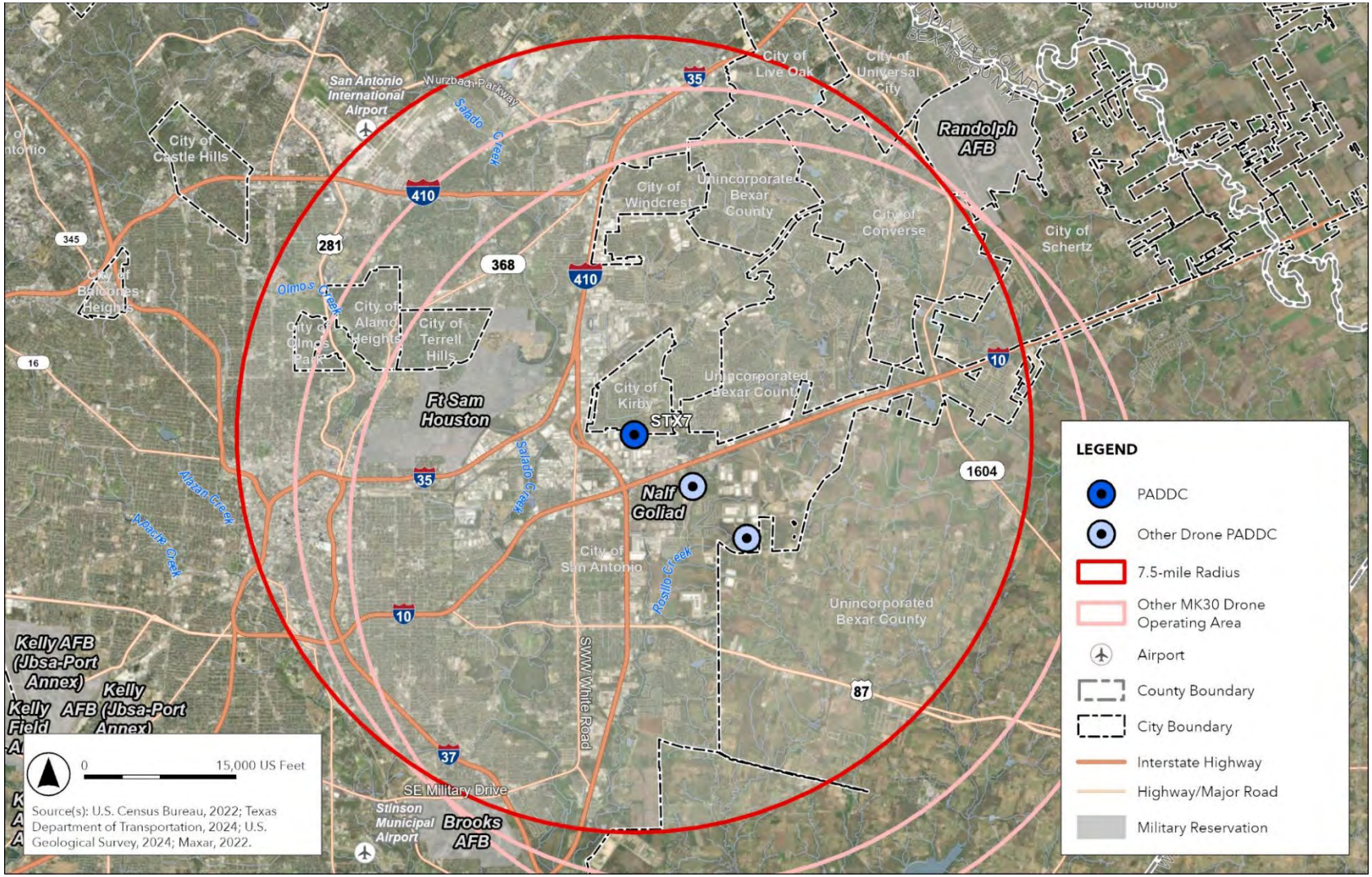
STX5 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 9

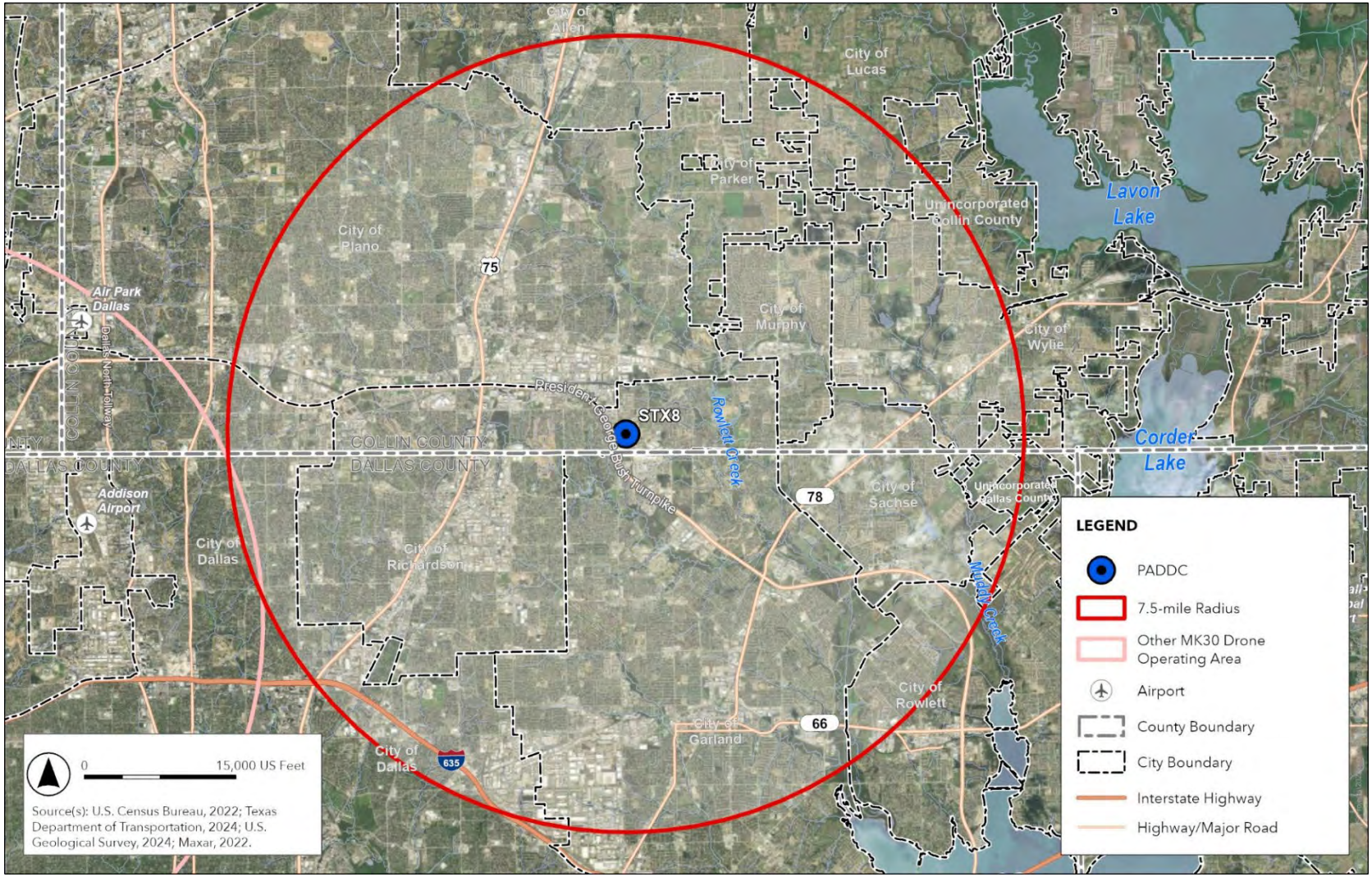
STX6 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

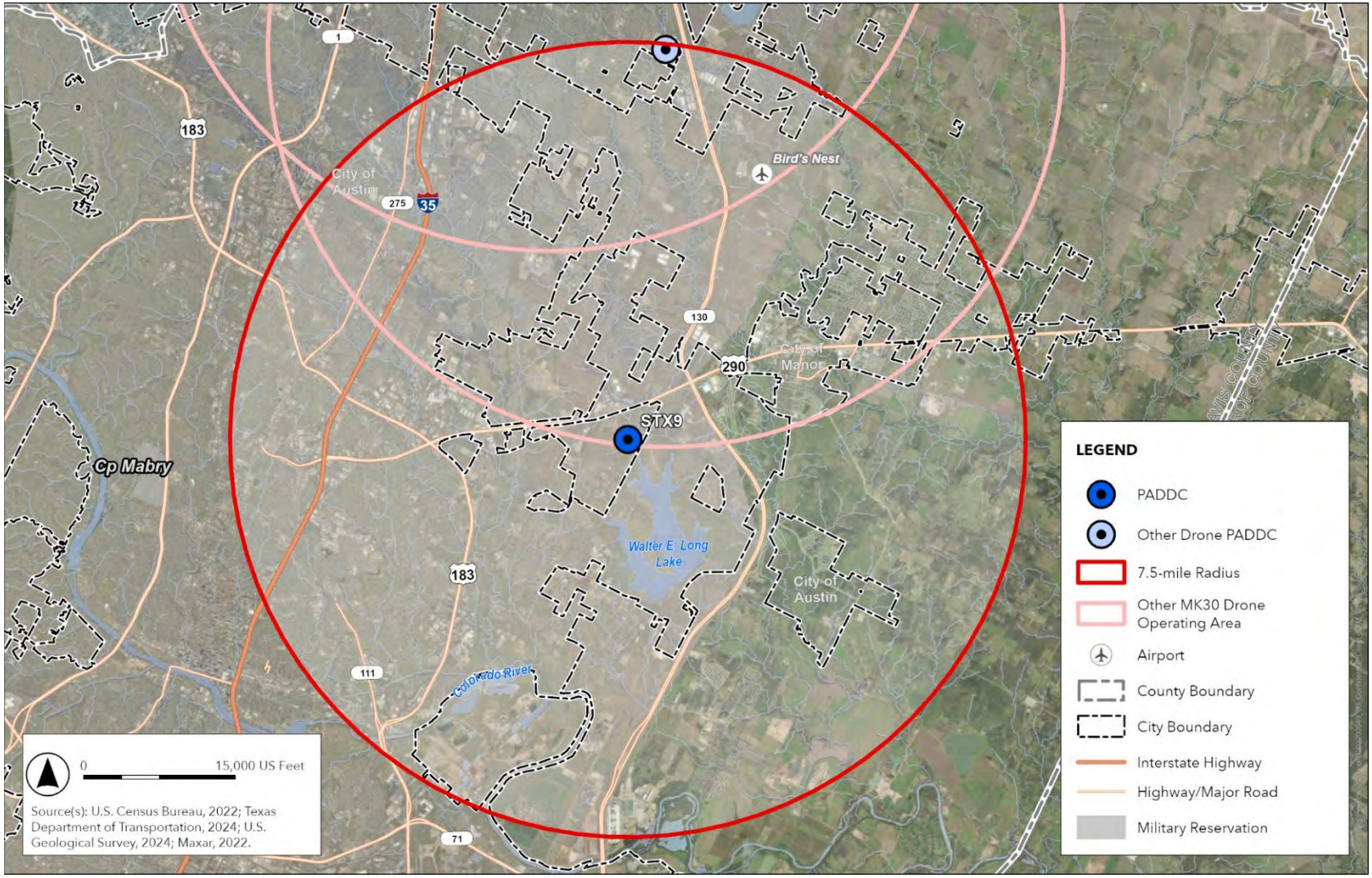
Figure 10

STX7 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

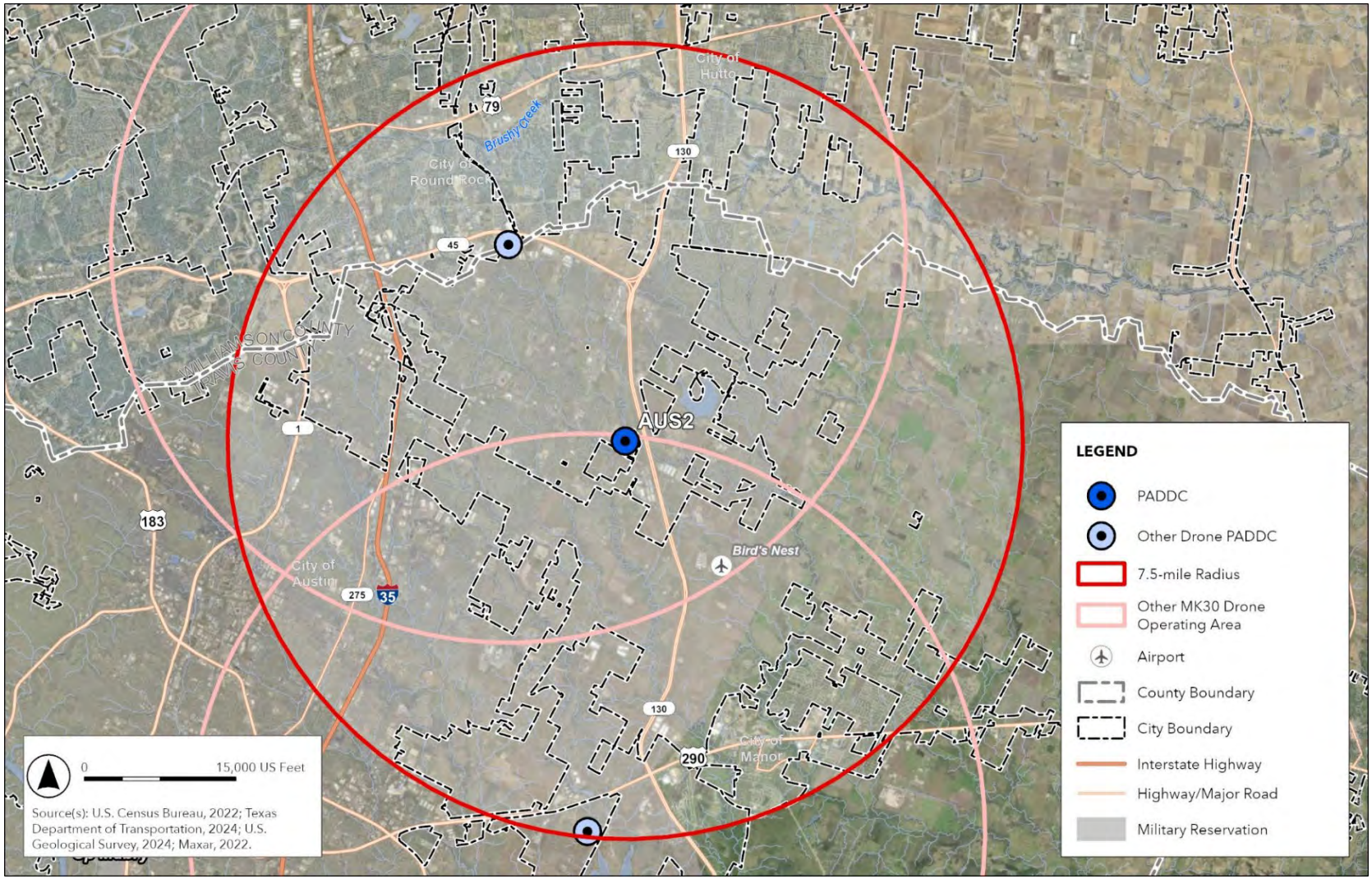
Figure 11
STX8 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 12

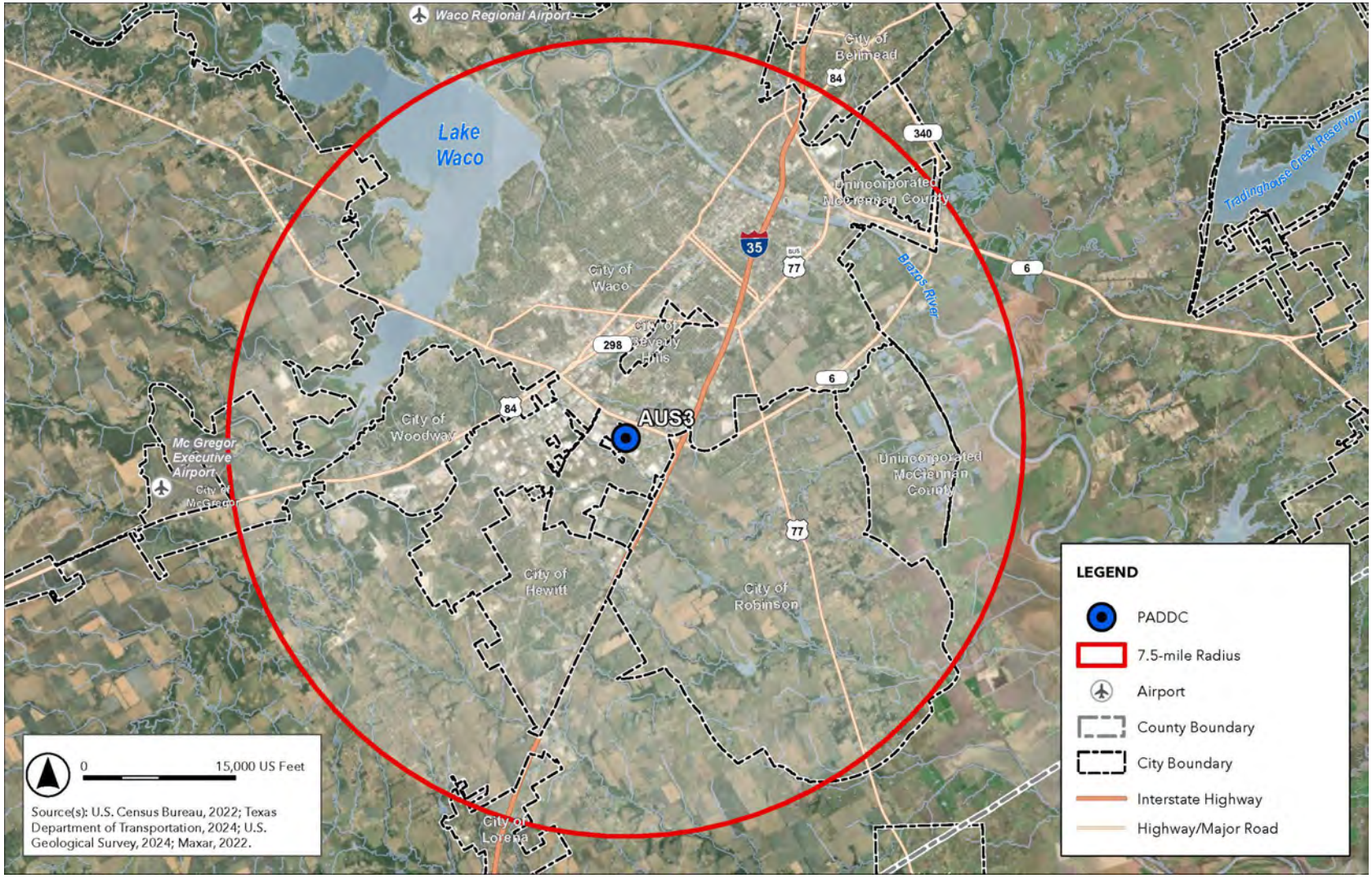
STX9 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

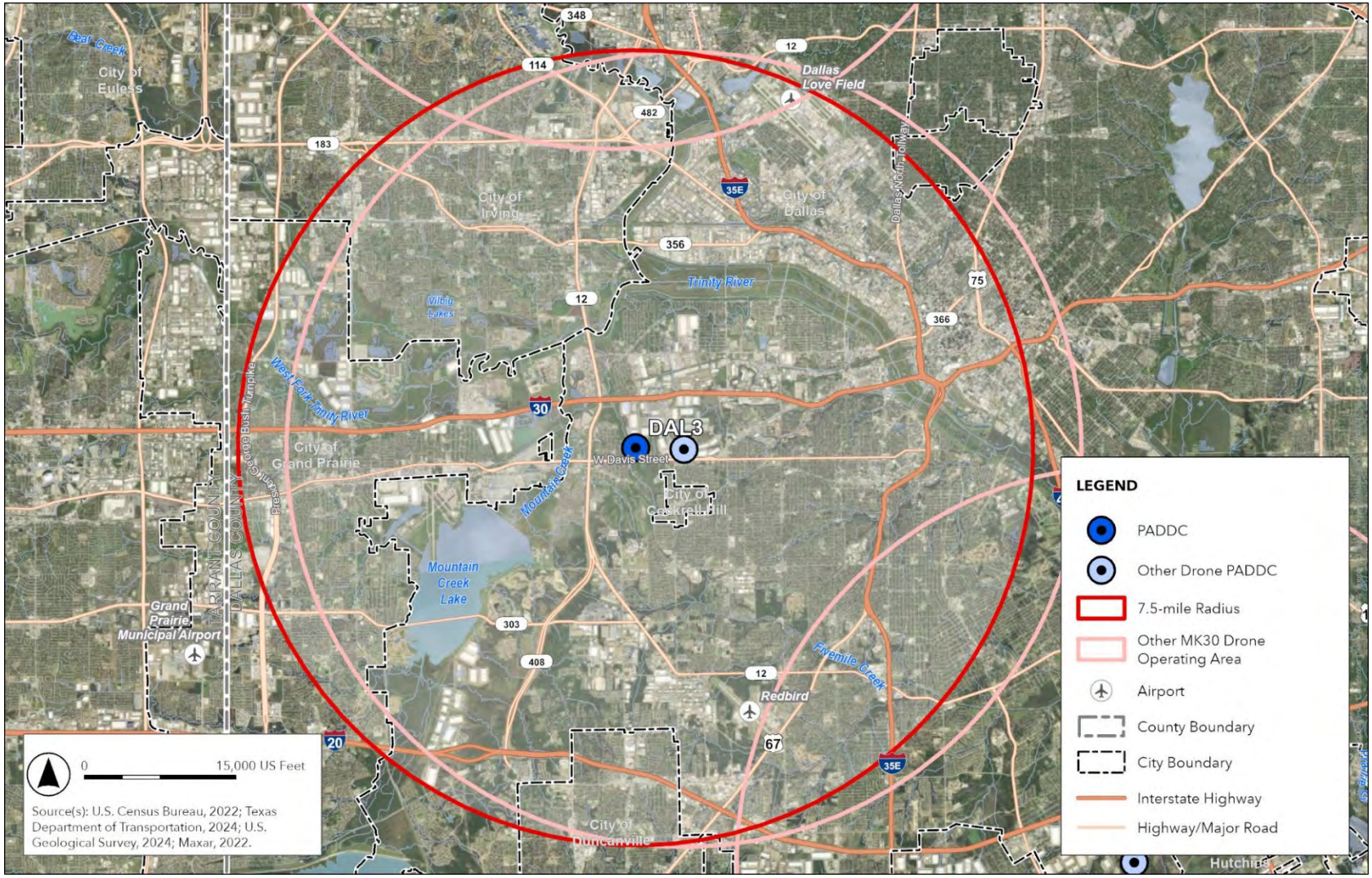
Figure 13

AUS2 Drone Operation Action Area



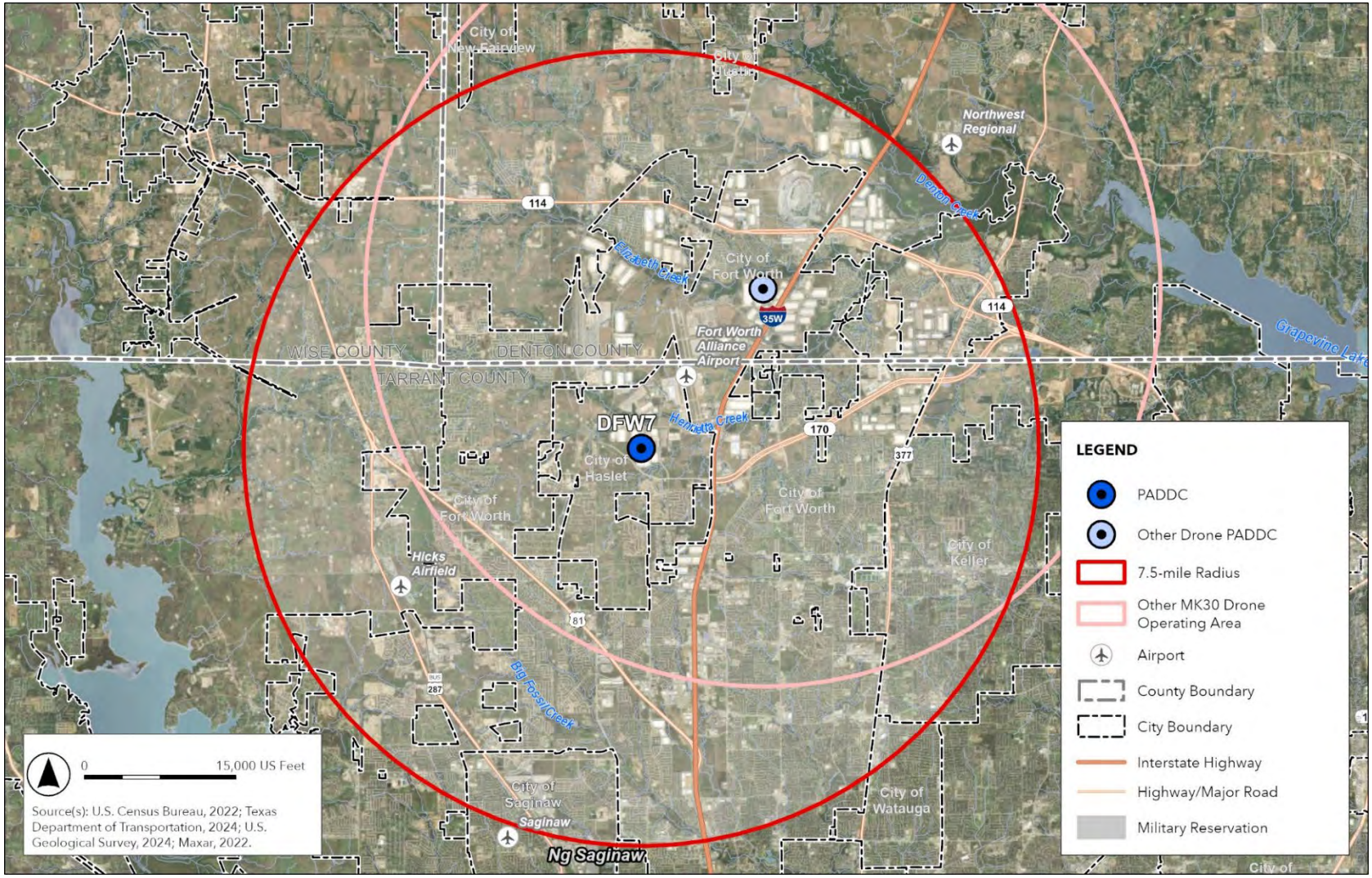
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 14
AUS3 Drone Operation Action Area



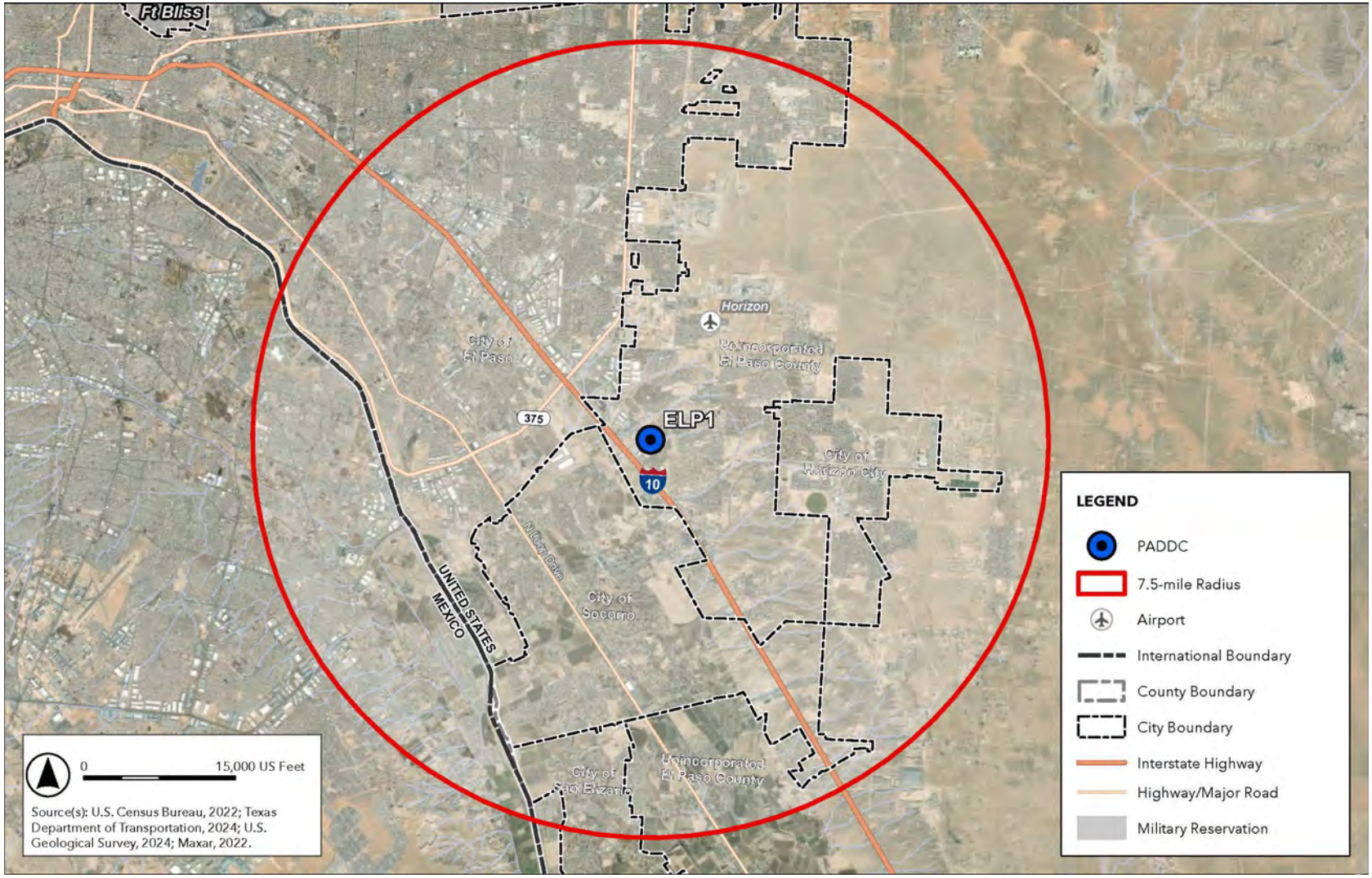
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 15
DAL3 Drone Operation Action Area



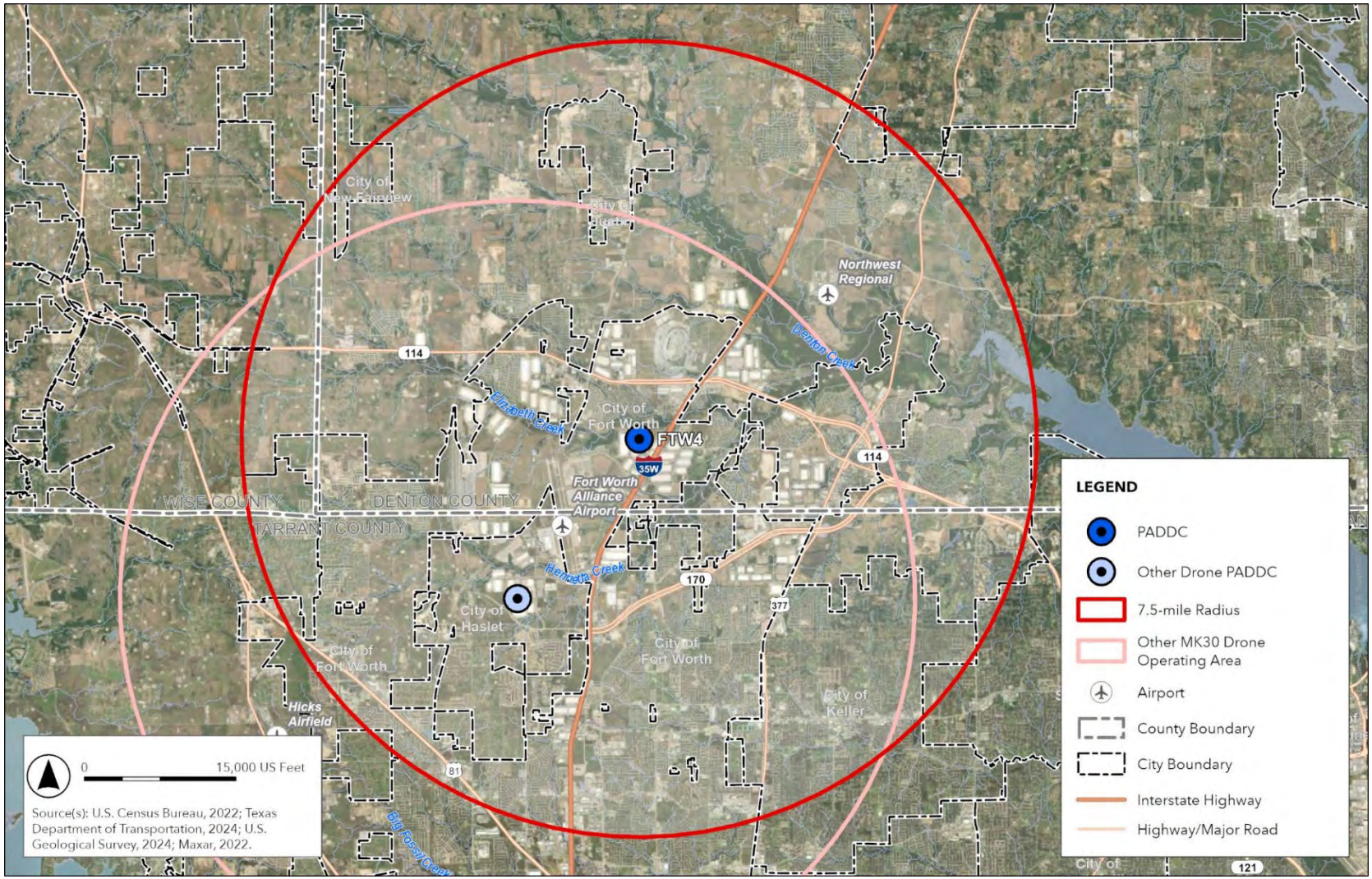
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 16
DFW7 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

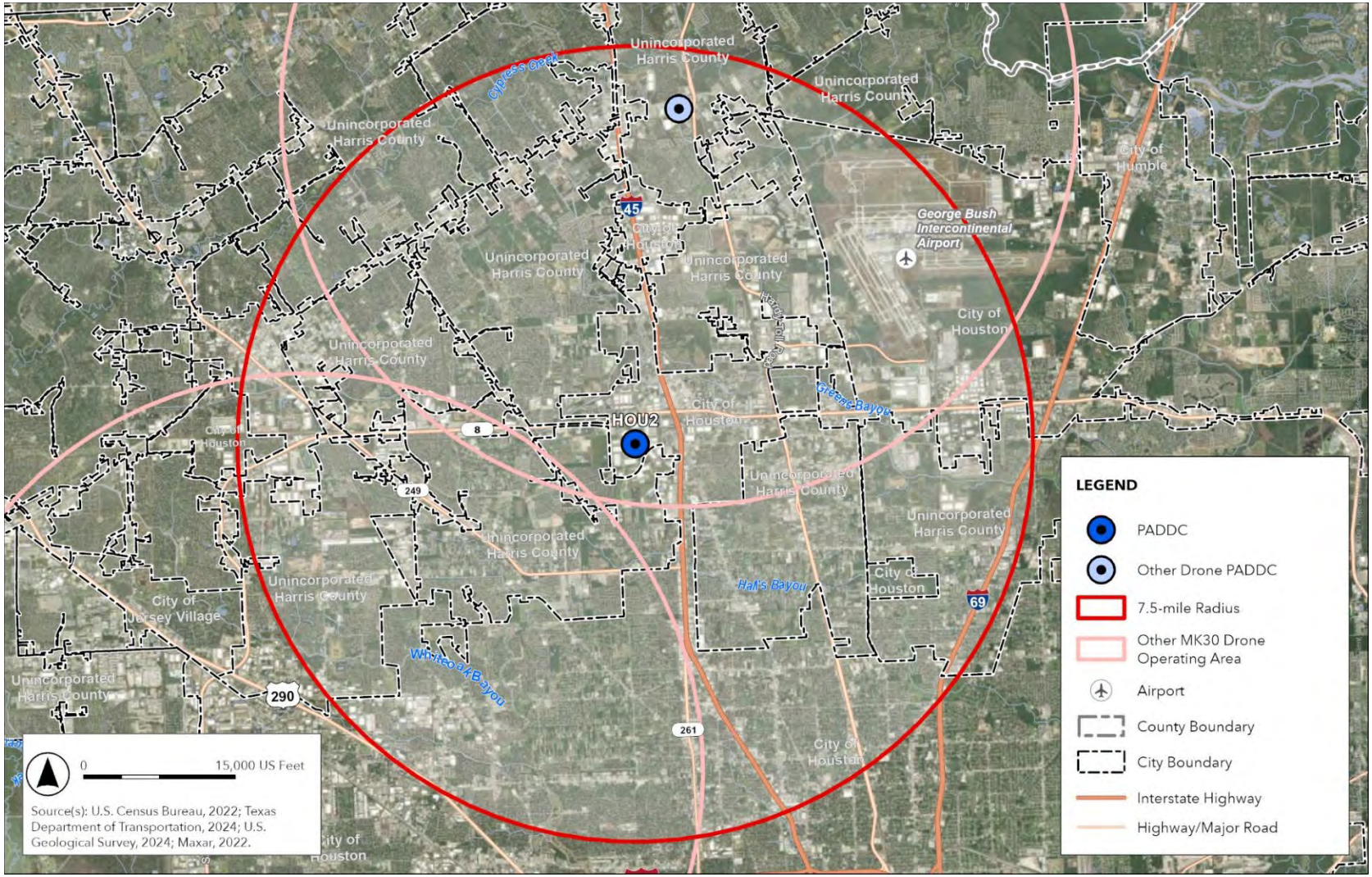
Figure 17
ELP1 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

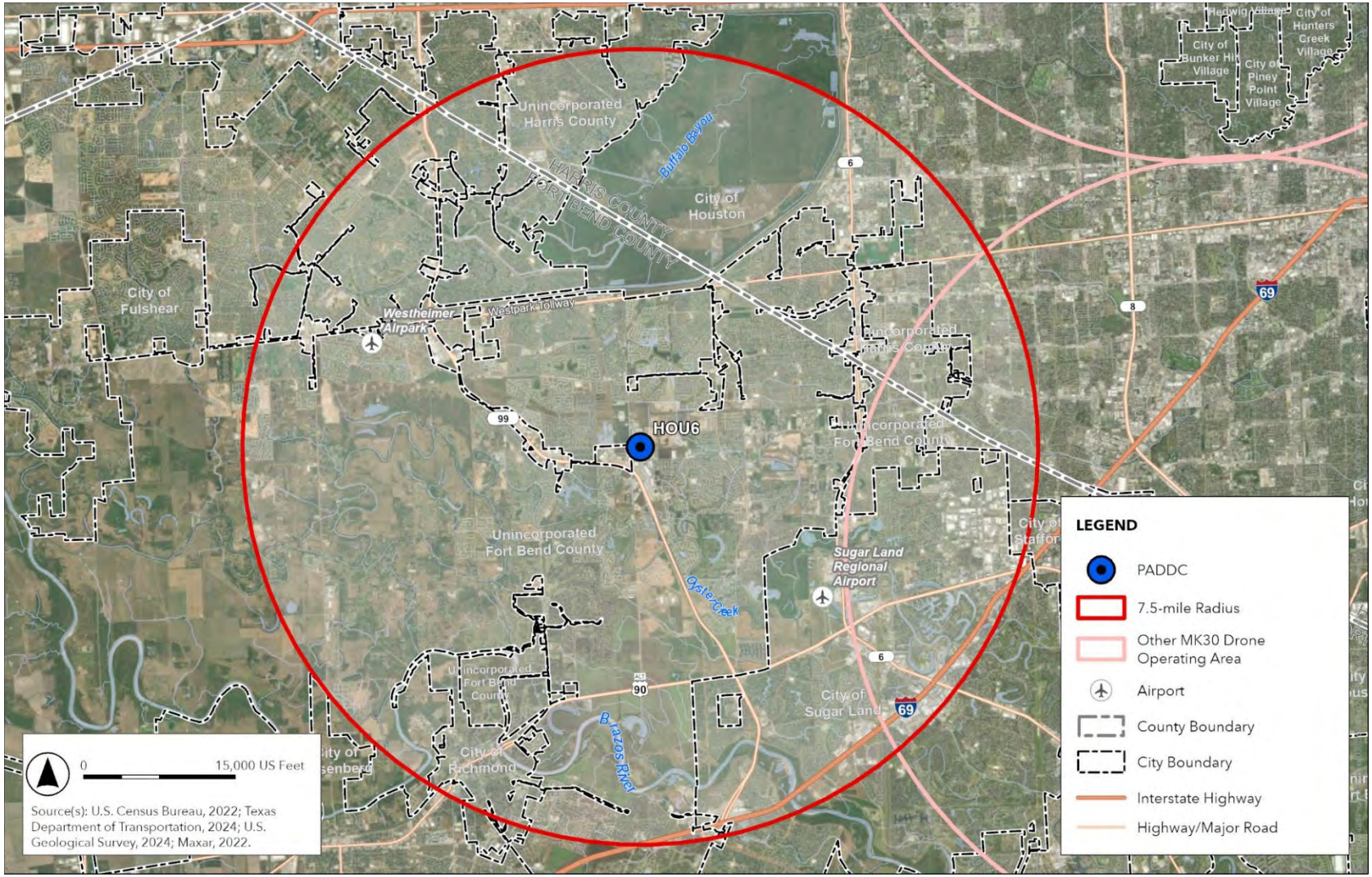
Figure 18

FTW4 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 19
HOU2 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 20
HOU6 Drone Operation Action Area

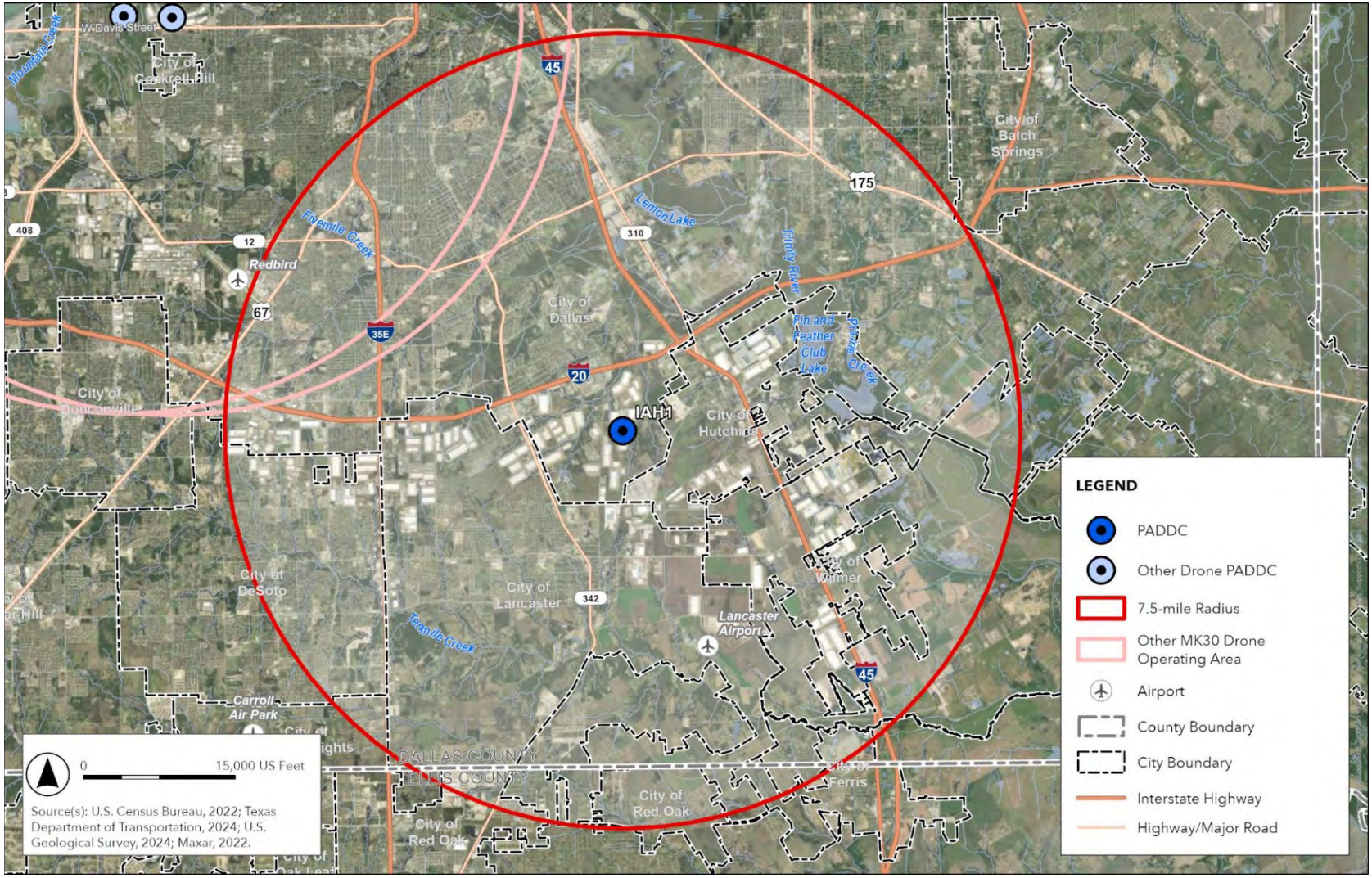


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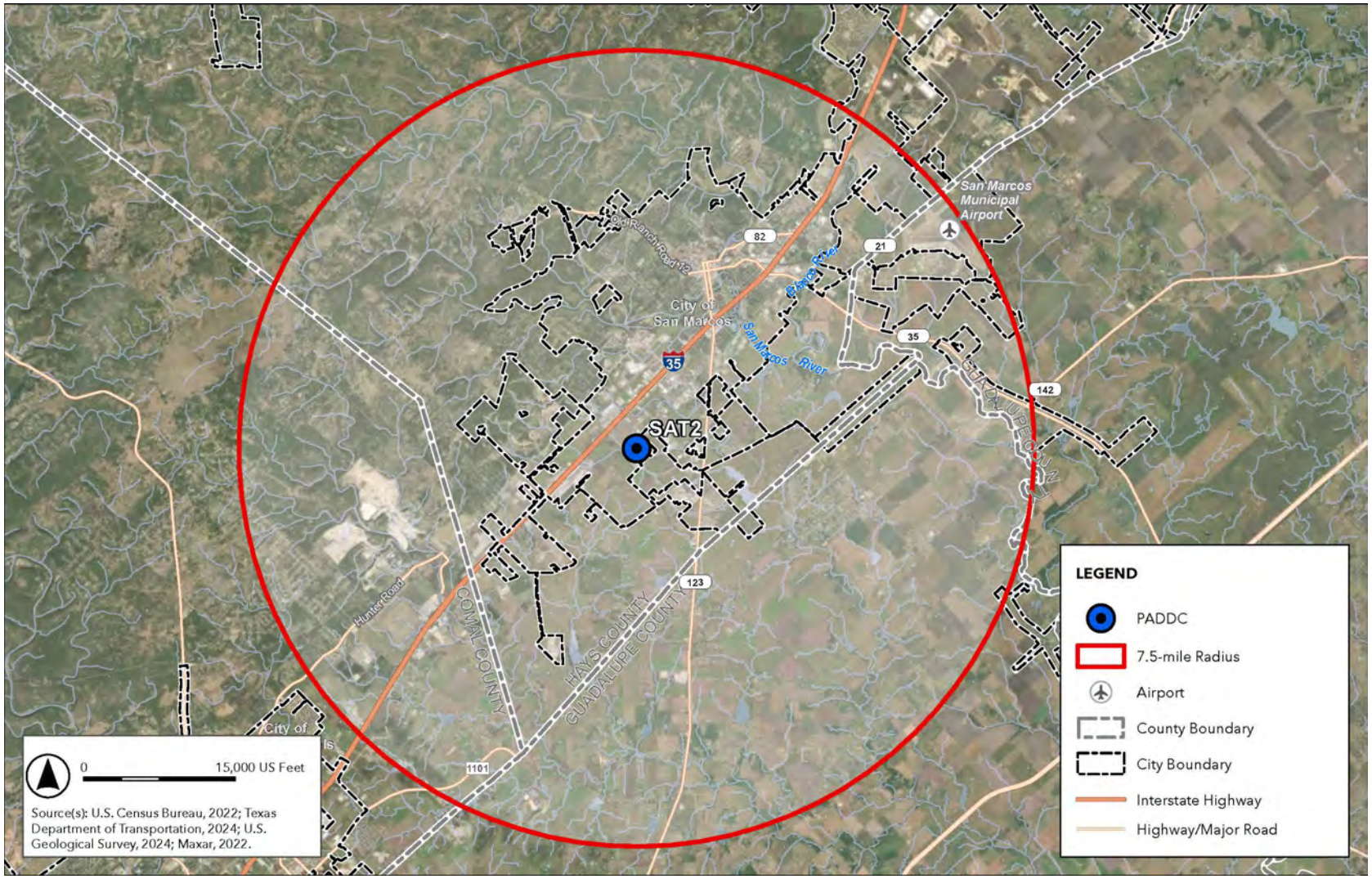
Figure 21

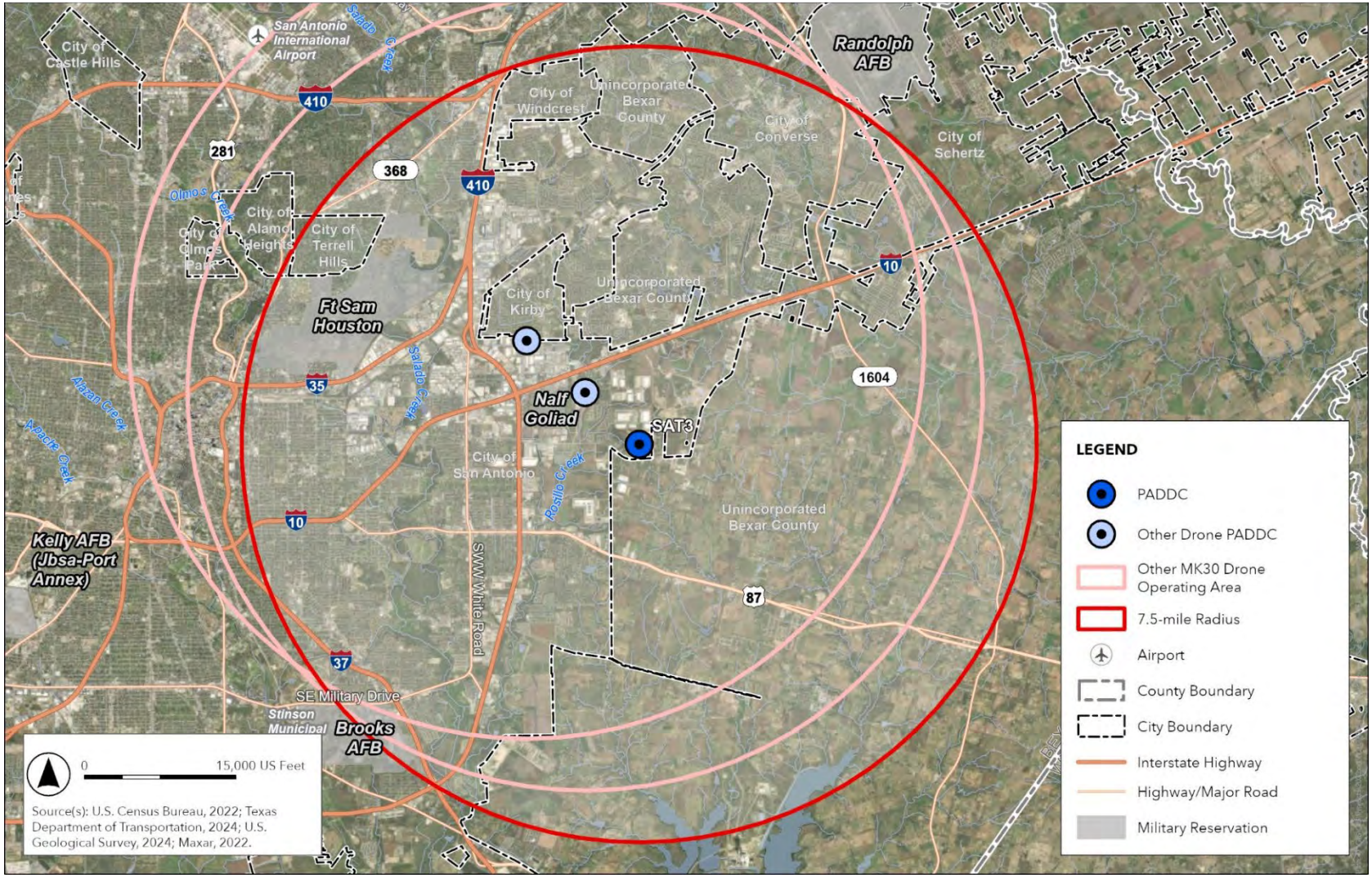
IAH1 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 22

SAT2 Drone Operation Action Area



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 23
SAT3 Drone Operation Action Area

Attachment B

MK30 Drone

MK30 Drone

Attachment C

Technical Noise Report

Federal Aviation Administration

Memorandum

Date: June 4, 2025

To: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch (AFS-752)

From: Dave Senzig, Manager (Acting), Noise Division, Office of Environment and Energy (AEE-100)

DAVID ALAN SENZIG
2025.06.04 14:13:14 -04'00'

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 Unmanned Aircraft (UA) from Multiple Texas Metropolitan (Metro) Areas

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard noise modeling methodology to be used for Amazon Prime Air (Amazon) operations using the MK30 unmanned aircraft (UA) from multiple metropolitan (metro) areas in Texas. This request is in support of an Environmental Assessment (EA) for Amazon to provide package delivery services as a 14 CFR Part 135 operator in the five Texas metro areas of Austin, Dallas-Fort Worth, El Paso, Houston, and San Antonio.

The Proposed Action is for Amazon to use the MK30 UA to conduct package delivery operations under its existing Part 135 air carrier certificate from 22 Prime Air Drone Delivery Centers (PADCCs) located in the five Texas metro areas detailed above to potential delivery locations such as residential homes within proposed associated operating areas. Typical operations of the MK30 UA will consist of departure from a launch/takeoff pad at the PADCC followed by a vertical climb to a typical en route altitude of 180 to 377 feet above ground level (AGL). The UA then transitions from vertical to horizontal wing borne flight (WBF) for transit to a delivery location. Approaching the delivery location, the UA will transition from horizontal WBF to vertical flight, and then descend vertically over the delivery point. At 13 feet AGL, the UA drops the package at the delivery point, and ascends vertically back to en route altitude. Once back at en route altitude, the UA again transitions from vertical to horizontal WBF for transit back to its originating PADDC. When the UA arrives at the PADDC, the UA will transition from horizontal WBF to vertical flight and descend vertically to its assigned landing pad. After landing, the UA is serviced and prepared for the next delivery.

Under the scope of the Proposed Action Amazon projects conducting a maximum of 365,000 annual deliveries during daytime hours, with no nighttime flights (10 PM – 7 AM), with 1,000 total deliveries on an average annual daily (AAD) basis at each of the 22 PADCC's and associated operating areas. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations with a minimum number of 0.1 deliveries per day or less and maximum of 4.0 per day at any one location within the proposed operating area on an AAD basis.

As the FAA does not currently have a standard approved noise model for assessing UA, and in accordance with FAA Order 1050.1F, all non-standard noise analysis in support of the noise impact analysis for the National Environmental Policy Act (NEPA) must be approved by AEE. This letter serves as AEE's response to the method developed in ESA Report No. 202200549.04 for the "Estimated Noise Levels for Amazon Prime Air MK30 Drone Technical Noise Report" dated April 2025.

The proposed methodology appears to be adequate for this analysis; therefore, AEE concurs with the methodology proposed for this project. Please understand that this approval is limited to this particular Environmental Review, location, vehicle, and circumstances. Any additional projects using this or other methodologies or variations in the vehicle will require separate approval.

Federal Aviation Administration

Memorandum

Date: May 19, 2025

To: Dave Senzig, Manager (Acting), Noise Division, Office of Environment and Energy (AEE-100)

From: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch, AFS-752

CHRISTOPHER A HURST Digitally signed by CHRISTOPHER A HURST Date: 2025.05.19 12:22:09 -05'00'

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for MK-30 Amazon Prime Air Operations in Multiple Texas Metropolitan (Metro) Areas

AFS requests AEE approval of the noise methodology to be used for the Environmental Assessment (EA) for Amazon Prime Air (Amazon) to expand its package delivery services as a 14 CFR Part 135 operator using the Amazon MK30 unmanned aircraft (UA) in 5(five) Texas metro areas listed below:

- Austin, TX
- Dallas-Fort Worth, TX
- El Paso, TX
- Houston, TX
- San Antonio, TX

As required under the National Environmental Policy Act (NEPA), the FAA must consider the potential for environmental impacts in informing the agency's decision to approve Federal actions, including the potential for noise impacts as detailed in FAA Order 1050.1F.

As the FAA does not currently have a standard approved noise model for UA, this letter serves as a request for written approval from AEE to use the methodology proposed in the following sections to support the noise analysis for the EA.

Description of Aircraft and Proposed Operations

AFS is evaluating Amazon's proposal to conduct package delivery operations from 22 Prime Air Drone Delivery Centers (PADCCs) located in five metro areas throughout Texas and associated operating areas under its existing Part 135 air carrier certificate and related operating authorizations using the MK30 UA. Amazon is proposing to perform package delivery operations within the proposed five metro areas to transport packages to delivery sites including residential homes.

The MK30 UA has six (6) propulsors allowing it to take-off and land vertically and transition to wing borne flight (WBF). Its airframe is composed of staggered tandem wings for stable WBF. The drone weighs 77.9 lbs. (35.5 kg) and has a maximum takeoff weight of 83.2 lbs. (37.8 kg), which includes a maximum payload of 5 lbs. (3 kg). It has a maximum operating range of 7.5 mi (12 km). It is a hybrid multicopter fixed-wing UA that uses electric power from rechargeable lithium- ion batteries and can fly up to 400 ft (122 m) above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during WBF. It is launched vertically using powered lift and converts to using wing lift during en route flight. A typical flight profile can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, Amazon's MK30 UA would rise to an altitude of less than 400 ft (122 m) AGL and follow a predefined route to its delivery site.

Aircraft would typically fly en route at between approximately 180 to 377 ft (55 to 115 m) AGL, except when descending to drop a package. Packages would be carried internally in the UA's fuselage. When making a delivery, the UA descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft (4 m) AGL.

Amazon's UA would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage. After the package is dropped, the MK30 UA climbs vertically and follows its predefined route back to the PADDC at its assigned altitude.

Amazon is seeking to amend its current Operation Specifications (OpSpec) and other Federal Aviation Administration (FAA) authorizations needed to integrate the MK30 and expand drone commercial package delivery operations.

Prime Air anticipates operating up to 1,000 delivery flights per operating day, up to 10 hours per day, and 7 days per week, from each of the 22 PADDCs. These operational levels would result in a projected total of approximately 365 operating days and 365,000 delivery operations per year for each PADDC, based on the scope of the Proposed Action. The operations would occur between 7 A.M. and 10 P. M. and are anticipated to be distributed evenly across each operating area. The MK30's proposed operating range is 7.5 mi from each PADDC, with a potential operating area of 3,828 sq mi. The drone departure and arrival paths from and to each PADDC would generally correspond to the geographical location of the package delivery address. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations throughout the operating area with a minimum number of 0.1 deliveries per day or less and maximum of 4.0 per day at any one location on an AAD basis.

Noise Analysis Methodology

AFS requests to use the noise analysis methodology described in ESA Report No. 202200549.04 for the "Estimated Noise Levels for Amazon Prime Air MK30 Drone Technical Noise Report" dated April 2025.

ESTIMATED NOISE LEVELS FOR AMAZON PRIME AIR MK30 DRONE

Technical Noise Report

April 2025

ESTIMATED NOISE LEVELS FOR AMAZON PRIME AIR MK30 DRONE

Technical Noise Report

April 2025

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1 Introduction

This document presents the methodology and estimation of noise exposure of Amazon Prime Air (Prime Air) package delivery operations under 14 CFR Part 135. Prime Air is proposing to conduct package delivery operations with the MK30 drone at selected distribution hubs (the Prime Air Drone Delivery Center, or PADDC).

The MK30 is an electric powered drone that uses a vertical take-off and landing (VTOL) then transitions to fixed-wing flight using wing lift during en route flight. The drone systems include hardware and software designed for safety and efficiency. The airframe is composed of staggered wings, the propulsion system includes a rechargeable lithium-ion battery, and six (6) motors that include propellers designed for noise reduction. The package delivery system contains the package in a two-door interior receptacle, and a camera and avionics system that has redundancy for critical systems. The drone weighs approximately 78 lbs. and has a maximum takeoff weight of 83.2 lbs., which includes a maximum payload of 5 lbs. It has a maximum operating range of 7.5 mi and can fly up to 400 ft above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during horizontal flight. An image of the MK30 drone is shown in **Figure 1**.

The MK30 operational flight profiles can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, the MK30 would ascend to an altitude of less than 400 ft AGL and follow a predefined route to its delivery site.[1] The MK30 would typically fly en route at between approximately 180 to 377 ft AGL, except when descending to drop a package. Packages would be carried internally in the drone's fuselage. When making a delivery, the drone descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft AGL. Prime Air's drone would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery phase.[2] After the package is dropped, the MK30 drone climbs vertically and follows its predefined route back to the PADDC at its assigned altitude.

This document outlines the methodology and estimation of noise exposure expected with the proposed use of Prime Air's drone package delivery operations.[3] The methods presented below are suitable for the evaluation of Federal actions in compliance with the National Environmental Policy Act (NEPA) and other applicable environmental regulations or federal review standards at the discretion and approval of the FAA. In particular, this report is intended to function as a nonstandard equivalent methodology under FAA Order 1050.1F, and therefore requires prior written consent from the FAA's Office of Environment and Energy (AEE) for each project seeking a NEPA determination.[4] The results of the noise analysis are presented in terms of the annual Day-Night Average Sound Level (DNL), considering varying levels of operations for areas at ground level below each flight phase.

[1] Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

[2] The MK30 vehicle is built with multiple redundant safety features and "detect and avoid" technology. The drone is designed to handle unexpected situations; it is independently safe.

[3] Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 Unmanned Aircraft (UA) from Kansas City, Missouri, May 2025. (See Attachment A).

[4] See FAA Order 1050.1F, July 16, 2015,
Appendix B, Section B-1.2, for discussion on the use of "equivalent methodology", available online at
https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf#page=113

Figure 1. Amazon Prime Air MK30 Drone

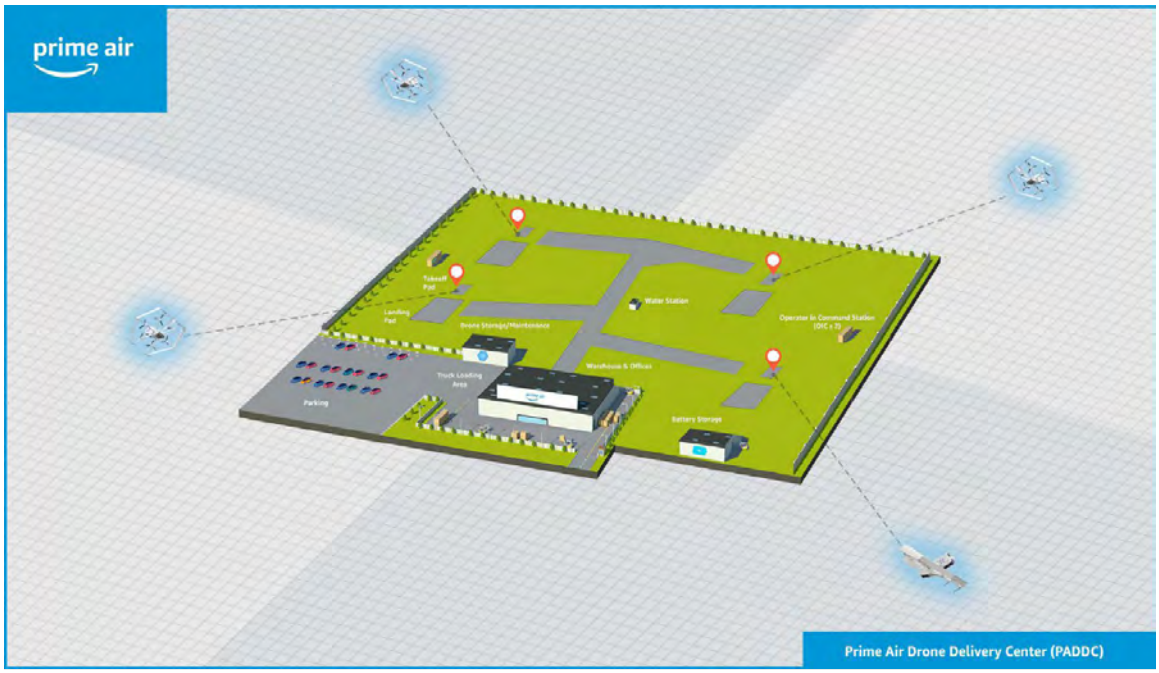
Source: Amazon Prime Air, 2023.

2 Drone Delivery Operations

The PADDC and its associated flight routes are determined by Prime Air's business and operational needs. Takeoff pads at the PADDC are four meters by four meters. Landing pads are eight meters by eight meters. Both pads are contained within a launch area approximately 35 meters by 45 meters. A diagram of a representative PADDC layout is presented in **Figure 2**.

The MK30 drone is capable of vertical ascent and descent, hovering, and flying upright with forward-facing propellers for en route travel. Airspeeds during normal en route flight are expected to be approximately 58.3 knots. A typical flight will commence with a vertical ascent from the launch pad to the transition altitude of approximately 115 feet, from which it will continue a forward-facing climb to an outbound en route altitude between 180 and 279 feet AGL. The drone then maintains altitude and follows a predetermined route, traveling at 58.3 knots toward the designated delivery point. Prior to arrival at the delivery point, the drone will begin its descent down to a transition altitude of 140 feet and decelerate to zero-speed at which time it will arrive at the delivery point. The drone then begins a vertical descent to 13 feet AGL at which time the package is released. The drone will ascend back to a transition altitude of 197 feet, begin the outbound transition and climb phase to 345 feet, while accelerating to 58.3 knots until it reaches the inbound en route altitude between 279 and 377 feet along the predetermined route back to the PADDC. Prior to arriving at the PADDC, the drone will descend to the transition altitude of 197 feet, decelerate to zero speed, and begin a vertical descent to the landing pad.

Figure 2. Representative PADDC Layout



Source: Amazon Prime Air, 2022.

2.1 Flight Profiles

Flight profiles of drone operations are broken into five general phases: takeoff, transitions to and from vertical and horizontal flight, en route, delivery, and landing. These phases can be combined to represent the typical operational profile of the drone as outlined below. A graphical representation of the operational profile is presented in **Figure 3** and each phase is summarized in **Table 1**.

Takeoff, Vertical Ascent, Transition, and Outbound Climb

The drone departs from the launch pad once cleared for takeoff. It will ascend vertically to the transition altitude of 115 feet AGL in vertical flight mode.

Upon reaching the transition altitude, and while still positioned above the launch pad, the drone transitions from zero speed to its cruise speed of 58.3 knots and continues an outbound climb to the typical cruise altitude of 200 feet AGL (ranges from 180 and 279 feet AGL). This transition is accompanied by a shift from vertical flight mode to horizontal flight mode.

Fixed-wing Outbound Cruise

The drone proceeds to fly at the typical cruise altitude of 200 feet AGL (ranges from 180 to 279 feet AGL) and 58.3 knots to the backyard descent and transition.

Backyard Descent, Delivery, Ascent, Transition, and Inbound Climb

The drone decelerates from the en route speed of 58.3 knots and descends from the typical outbound cruise altitude of 200 feet AGL (ranges from 180 to 279 feet AGL) to a transition altitude of 140 feet AGL. The drone then transitions to vertical flight mode, where it will be positioned over the delivery point at zero speed.

The drone begins a vertical descent from the transition altitude to 13 feet AGL while maintaining position above the delivery point. Once at 13 feet AGL, the drone drops the package and ascends vertically back to the transition altitude of 197 feet AGL. The nearest allowable proximity of any individual, animal, or other obstacles to the delivery point during this maneuver is 16.4 feet.

Once at the transition altitude and positioned above the delivery point, the drone transitions from zero speed to en route speed while changing from vertical flight to horizontal flight and continues to climb to the typical inbound cruise altitude of 345 feet AGL (ranges from 279 to 377 feet AGL).

Fixed-wing Inbound Cruise

The drone continues to fly at the typical en route altitude of 345 feet AGL (ranges from 279 to 377 feet AGL) and speed of 58.3 knots towards the PADDC.

Landing Descent, Transition, Vertical Descent, and Landing

The drone decelerates as it approaches the PADDC and descends to the transition altitude of 197 feet AGL and where it transitions from horizontal flight to vertical flight, coming to a zero-speed position over its assigned landing pad.

The drone descends over its assigned landing pad in vertical flight until it touches down and shuts down the motors.

Table 1. Representative Operational Profile by Phase of Flight

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 115	0	15
Transition and Outbound Climb	115 to 279	0 to 58.3	40
Fixed Wing Outbound Cruise	200[1]	58.3	Variable[3]
Delivery Descent and Transition	Descent from 200 to 140	58.3 to 0	30
Backyard Descent	Descent from 140 to 13	0	27
Delivery	13	0	4
Backyard Ascent	Ascent from 13 to 197	0	30
Transition and Inbound Climb	Ascent from 197 to 377	0 to 58.3	40
Fixed-Wing Inbound Cruise	377[2]	58.3	Variable[3]
Landing Descent and Transition	Descent from 377 to 197	58.3 to 0	30
Vertical Descent and landing	Descent from 197 to 0	0	35

SOURCE: Amazon Prime Air, February 2025

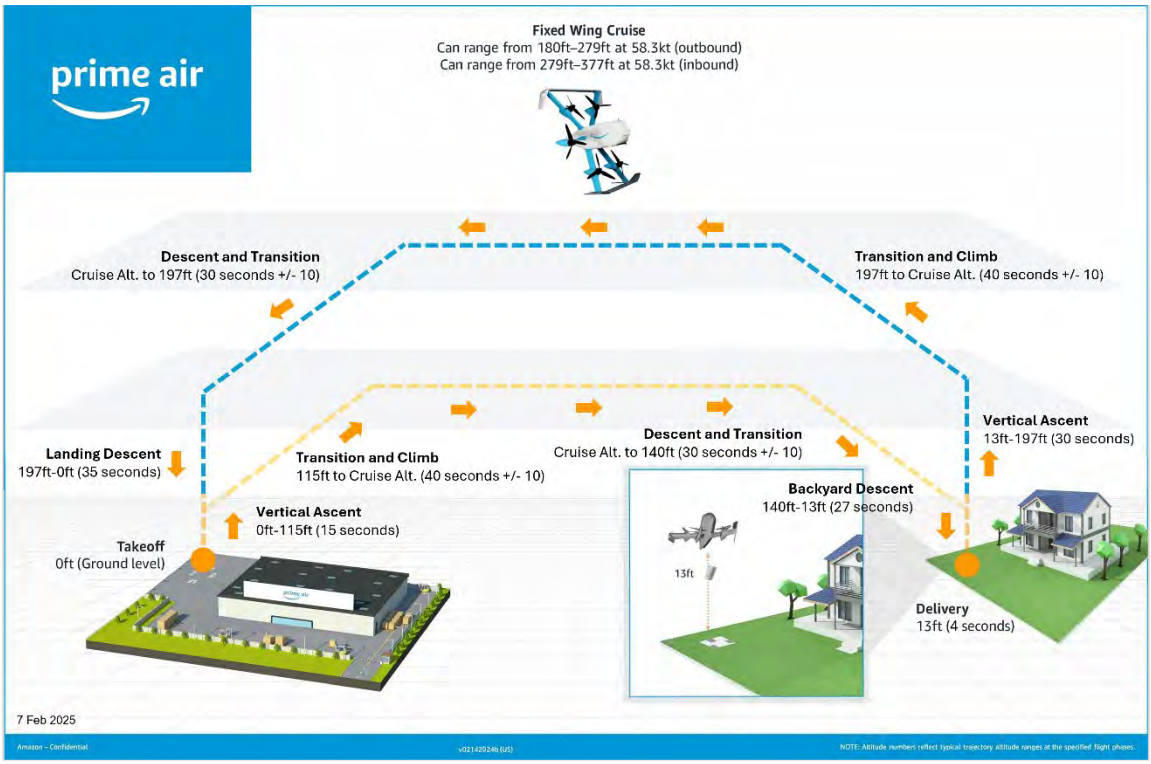
Notes:

[1] The outbound enroute altitude may range from 180 – 279 feet. For this analysis the outbound cruise altitude was assumed to be 200 feet.

[2] The inbound enroute altitude may range from 279 – 377 feet. For this analysis the inbound cruise altitude was assumed to be 345 feet.

[3] Duration of inbound and outbound cruise flight time varies based on distance to customer.

Figure 3. Representative Operational Profile of the MK30



Source: Prime Air, 2025.

3 Methodology

As previously mentioned, there is not a standardized process for drone noise assessments. Therefore, ESA is applying technical guidance that was previously approved by the FAA Office of Environment and Energy for past analyses. The following subsections outline this methodology.

Prime Air conducted noise measurements of the MK30 drone in October 2024 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT). ESA, in coordination with the FAA, processed and analyzed the measurement data and calculated the noise levels for each of the flight phases.[5] The following subsections show either the A-weighted Sound Exposure Levels (SEL) or formulas to calculate the SELs used for this analysis, which can be matched to each flight phase detailed in **Table 1**.

3.1 Daytime Equivalent Operations and DNL

As mentioned, results are presented as DNL which applies a 10 dB weighting, or equivalent to 10 times the number of nighttime operations, for operations between 10:00 P.M. and 7:00 A.M. Therefore, the operations near point *i* can be weighted to develop a daytime equivalent number of operations ($N_{equiv,i}$).

[5] Prime Air MK30 Done Noise Measurement Report, Environmental Science Associates, April 2025. (See Attachment B).

$$eq.1.\ N_{Equiv,i} = W_{Day} \text{ x } N_{Day,i} + W_{Eve} \text{ x } N_{Eve,i} + W_{Night} \text{ x } N_{Night,i}$$

Where:

- $N_{Day,i}$ is the number of user-specified operations between 7 A.M. and 7 P.M. local time
- $N_{Eve,i}$ is the number of user-specified operations between 7 P.M. and 10 P.M. local time
- $N_{Night,i}$ is the number of user-specified operations between 10 P.M. and 7 A.M. local time
- W_{Day} is the day-time weighting factor, which is 1 operation for DNL
- W_{Eve} is the evening weighting factor, which is 1 operation for DNL
- W_{Night} is the night-time weighting factor, which is 10 operations for DNL

The number of daytime equivalent operations, $N_{DNL,i}$ can be simplified to

$$eq.2.\ N_{DNL,i} = N_{Day,i} + N_{Eve,i} + 10 \text{ x } N_{Night,i}$$

3.2 PADDC Infrastructure

Each PADDC accommodates four sets of launch and landing pads. In the context of this noise analysis, it is assumed that all operations would occur at one launch/landing pad, where it would be the closest to the noise-sensitive areas. This assumption is considered acoustically conservative. If the precise location of the nearest single launch or landing pad is unknown, the respective PADDC boundary should be used for the analysis.

3.3 Application of Acoustical Data

The summation of the SELs presented in subsequent sections are used to estimate the DNL for Prime Air's drone operations covered in this report. SEL results are detailed in the measurement report found in **Attachment B**.

For calculating SEL, four specific activities are considered:

- The drone taking off from the PADDC (includes transition between vertical and horizontal flight)
- En route travel of the drone in horizontal flight between the PADDC and the delivery point
- Delivery
- The drone landing at the PADDC (includes transition between vertical and horizontal flight)

3.3.1 Takeoff

The process for estimating SELs associated with takeoff as a function of distance from the PADDC is presented in Equation 3 and incorporates the parameters detailed in **Table 2**.

$$eq.3.\ SEL = m \text{ x } Log_{10}(d) + b(dB)$$

Where:

- d is the distance along the ground in feet between the drone and receiver
- m and b are parameters provided in the tables below

Table 2. Parameters for Estimating Takeoff Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
20 to 76	-14.51	109.35
76 to 195	-13.51	107.46
195 to 372	-14.66	110.09
372 to 772	-17.08	116.32
772 to 1,205	-17.05	116.23
1,205 and greater	0.00	63.7

SOURCE: ESA, 2025.
Note: Distance is along ground from launch pad to receiver.

Application of the SEL is based on the position of the launch/landing pad, where it would be the closest to the noise-sensitive areas. However, if the exact location of the launch pad is not known, the outer boundary of the PADDC, at a point closest to the receiver, should be used as it considered to be acoustically conservative. It should be noted that the SEL values include the transition to horizontal flight and the acceleration to en route speed that would occur during the climb.

3.3.2 En Route

The anticipated outbound flight speed of the drone en route is 58.3 knots at a cruise altitude of 200 feet AGL. For inbound flight the anticipated cruise altitude is 345 feet AGL with the same 58.3 knot flight speed. As discussed in **Appendix B**, adjustments were applied to the measured data to account for how the varying speed impacts the duration of the overflight at the stationary receptor.

As shown in **Table 3**, the SEL is 63.7 dB when the drone is at maximum weight, at 200 feet from the stationary receiver and traveling at approximately 58.3 knots. The SEL is 60.9 dB when the drone is at empty weight, 345 feet from the stationary receiver, and traveling at approximately 58.3 knots.

Table 3. Estimates of En Route Sound Exposure Level

Aircraft Configuration	Reference Air Speed (knots)	Reference Altitude (feet AGL)	Uncorrected Speed (knots)	Uncorrected Altitude (feet AGL)	Uncorrected SEL (dBA)	Corrected SEL (dBA)
Maximum Weight	58.3	200	60.8	116	66.1	63.7
Empty Wight	58.3	345	60.8	98	66.9	60.9

SOURCE: ESA, 2025.

3.3.3 Delivery

The process for estimating SELs associated with delivery as a function of distance from a receiver relative to the position of the delivery point is presented in Equation 3 and incorporates the parameters detailed in **Table 4**.

Table 4. Parameters for Estimating Delivery Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
25 to 76	-13.18	110.56
76 to 175	-18.65	120.84
175 to 372	-13.86	110.11
372 to 772	-15.63	114.67
772 to 1,820	-15.63	114.65
1,820	0.00	63.7

SOURCE: ESA, 2025.
Note: Distance is along ground from delivery point to receiver.

The minimum distance used for calculation between the delivery point and a person is 16.4 feet.[6] The values in **Table 4** are valid for distances from the delivery point of 25 feet or greater. SEL values for distances between 16 and 25 feet are adjusted by distance to the delivery point and sound level adjustment of a stationary source as provided by Equation 4.

$$eq.4.\ SEL_{Delivery} = 92.1 + 12.5 \text{ x } Log_{10} \frac{25}{Distance\ from\ Delivery\ Point\ (ft)}$$

It should be noted that the SEL values include the noise contribution from the horizontal flight associated with the drone transition from en route to descent and transition, including the transition to vertical flight and transition back to en route altitude.

3.3.4 Landing

The process for estimating SELs associated with landing as a function of distance from the PADDC is presented in Equation 3 and incorporates the parameters detailed in **Table 5**.

Table 5. Parameters for Estimating Landing Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
20 to 76	-14.95	111.28
76 to 195	-16.17	113.58
195 to 375	-21.10	124.86
375 to 1,074	-21.10	124.87
1,074	0.00	60.9

SOURCE: ESA, 2025.
Note: Distance is along ground from launch pad to receiver.

If the location of the landing pad is known, the outer boundary of the PADDC (at a point closest to the noise sensitive receiver), should be used for the modeling location as a conservative approach. It should be noted that the SEL values include the descent from en route altitude and the deceleration from en route speed, and the transition to vertical flight that would occur after the initial descent.

[6] Prime Air's safety guidance stipulates that there should not be a person, animal or object within 5 meters of the delivery point, and if the drone detects a person, animal or object within 5 meters of the delivery point, it will abort the delivery.

3.4 DNL Estimation Methodology

The number of operations flying over a specific receiver's ground location will fluctuate depending on the proposed operating area and demand. For a given receiver location, *i*, and a single instance of sound source, *A*, the SEL for that sound source SEL_{iA} is (energy) summed for the average annual daily number of DNL daytime equivalent operations ($N_{DNL,iA}$) to compute the equivalent DNL in Equation 5.

$$eq.5.\ DNL_{iA} = SEL_{iA} + 10\ \mathrm{x}\ Log_{10}\left(N_{DNL,iA}\right) - 49.4, dB$$

The above equation applies to an SEL value representing one noise source such as a drone takeoff or landing. For cases where a receiver would be exposed to multiple noise sources (e.g. takeoff, transiting, en route, and departure), the complete DNL at that point was calculated with Equation 6.

$$eq.6.\ DNL_i = 10\ \mathrm{x}\ Log_{10}\left(10^{\left(\frac{DNL_{ia}}{10}\right)} + 10^{\left(\frac{DNL_{ib}}{10}\right)} + \cdots + 10^{\left(\frac{DNL_{iz}}{10}\right)}\right), dB$$

For each of the conditions presented below, results are presented in tabular format based on the equivalent daytime operations, in DNL daytime equivalent, for the estimated DNL. The proper output of DNL is dependent on the calculation of respective daytime equivalent operations.

3.4.1 DNL at PADDC

The takeoff and landing operations are anticipated to occur at one PADDC for this analysis. Therefore, the results at the PADDC will be calculated for a single set of receptors. Operations were assumed to takeoff and land along the same flight path.

Takeoff operations are represented by two phases of flight. The drone will take off and climb to the transition altitude as discussed in **Section 2**. The drone will then transition from vertical flight to horizontal flight and accelerate to en route speed of 58.3 knots and climb to en route altitude.

Landing operations are also represented by two phases of flight. The drone flies to the PADDC at en route altitude until it begins to descend to the transition altitude while slowing down and transitions from horizontal to vertical flight as described in **Section 2**. Then the drone descends from the transition altitude to the ground and shuts down.

The two noise sources representing the complete takeoff and landing cycle associated with a single delivery departing and returning at the PADDC were added together using Equation 6.

3.4.2 DNL for En Route

A receiver will be positioned directly under the flight path, and the DNL will be calculated based on the altitude and speed-adjusted delivery SEL presented in **Table 3**. The number of operations would be based on relevant materials and assume that a drone directly overflies the receiver while at maximum and empty weight for outbound and inbound flight, respectively, for a single delivery. The en route outbound and inbound noise level are added together with Equation 6.

3.4.3 DNL for Delivery Points

Delivery operations are represented by the deceleration of the drone from en route speed and transition from horizontal flight to vertical flight over the delivery point at the transition altitude of 140 feet AGL. The drone then begins a vertical descent to where the package is dropped at the delivery point at 13 feet AGL. The drone then climbs back to the transition altitude of 197 feet AGL where it will transition from vertical flight to horizontal flight, accelerating to en route speed.

4 Estimated Noise Exposure

This section outlines the estimated noise exposure for Prime Air's proposed operations for any given number of average annual day (AAD) deliveries. Results are based off the estimated number of DNL equivalent deliveries associated with the PADDC and presented in tabular format. Deliveries will not occur during nighttime hours (10 P.M. – 7 A.M.). Note that one delivery includes the outbound takeoff and inbound landing and is representative of two operations.

The DNL equivalent deliveries, $N_{DNL,i}$ as described in **Section 4.1**, is presented below as Equation 7.

$$eq.7.\ Deliveries_{DNL,i} = Deliveries_{Day} + 10 \text{ x } Deliveries_{Night}$$

$Deliveries_{Day}$ are between 7 A.M. and 10 P.M. and $Deliveries_{Night}$ are between 10 P.M. and 7 A.M. If a portion of a delivery (either takeoff or landing) occurs in the nighttime hours, then it is counted within $Deliveries_{Night}$.

For estimating noise exposure, the noise levels for each flight phase are considered separate based on the level of proposed operations for a given location. When a particular receptor is at the transition of different flight phases, the noise exposure is then determined by adding the noise from each phase.

4.1 Noise Exposure for Operations at the PADDC

For operations at the PADDC, noise generated by the drone includes takeoff, landing, and transitions from vertical to horizontal flight within the corresponding flight phases. It was assumed that all operations follow the same en route flight path, with outbound and inbound flights traversing it in opposing directions for a conservative approach.

Table 6 presents estimated extent of noise exposure for the number of average daily DNL equivalent deliveries (including the takeoff and climb, transition to en route outbound, transition from en route inbound, and descent and landing as detailed in **Section 2**) under the flight path for the PADDC. The analyses presented were rounded up conservatively to the nearest interval available from the data outlined in this section.

Table 6. Estimated Extent of Noise Exposure from PADDC per Number of Deliveries

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 1	<= 365	21	21	21	21	21
<= 5	<= 1,825	50	21	21	21	21
<= 10	<= 3,650	100	50	21	21	21
<= 15	<= 5,475	100	50	21	21	21
<= 20	<= 7,300	100	50	21	21	21
<= 40	<= 14,600	150	100	50	21	21
<= 60	<= 21,900	200	100	50	21	21
<= 80	<= 29,200	250	150	50	21	21
<= 100	<= 36,500	300	150	100	50	21
<= 120	<= 43,800	350	150	100	50	21
<= 140	<= 51,100	350	200	100	50	21
<= 160	<= 58,400	400	200	100	50	21
<= 180	<= 65,700	450	200	100	50	21
<= 200	<= 73,000	450	200	100	50	21
<= 220	<= 80,300	500	250	100	50	21
<= 240	<= 87,600	500	250	100	50	21
<= 260	<= 94,900	500	250	150	50	21
<= 280	<= 102,200	550	300	150	50	50
<= 300	<= 109,500	550	300	150	100	50
<=320	<= 116,800	600	300	150	100	50
<= 340	<= 124,100	600	300	150	100	50
<= 360	<= 131,400	600	300	150	100	50
<= 380	<= 138,700	650	350	150	100	50
<= 400	<= 146,000	650	350	150	100	50
<= 420	<= 153,300	700	350	150	100	50
<= 440	<= 160,600	700	350	200	100	50
<= 460	<= 167,900	700	400	200	100	50
<= 480	<= 175,200	750	400	200	100	50
<= 500	<= 182,500	750	400	200	100	50
<= 520	<= 189,800	750	400	200	100	50
<= 540	<= 197,100	800	400	200	100	50
<= 560	<= 204,400	800	400	200	100	50
<= 580	<= 211,700	800	450	200	100	50
<= 600	<= 219,000	850	450	200	100	50
<= 620	<= 226,300	850	450	200	100	50
<= 640	<= 233,600	850	450	250	100	50
<= 660	<= 240,900	900	450	250	100	50
<= 680	<= 248,200	900	450	250	100	50
<= 700	<= 255,500	900	500	250	100	50
<= 720	<= 262,800	950	500	250	100	50
<= 740	<= 270,100	950	500	250	100	50
<= 760	<= 277,400	950	500	250	100	50
<= 780	<= 284,700	950	500	250	100	50
<= 800	<= 292,000	1,000	500	250	150	50
<= 820	<= 299,300	1,000	500	250	150	50

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 840	<= 306,600	1,000	550	250	150	50
<= 860	<= 313,900	1,050	550	250	150	50
<= 880	<= 321,200	1,050	550	250	150	50
<= 900	<= 328,500	1,050	550	300	150	50
<= 920	<= 335,800	1,050	550	300	150	50
<= 940	<= 343,100	Note 3	550	300	150	50
<= 960	<= 350,400	Note 3	550	300	150	100
<= 980	<= 357,700	Note 3	600	300	150	100
<= 1,000	<= 365,000	Note 3	600	300	150	100

SOURCE: ESA, 2025.

Notes:

1. One delivery accounts for the outbound takeoff and inbound landing and is representative of two operations.
2. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.
3. The DNL noise level extends more than 1,074 feet from the PADDC based on the level of operations specified as the aircraft continues along its en route flight path. En route results in Section 4.2 may be more applicable in these instances for determining noise levels.

4.2 Noise Exposure under En Route Paths

When the drone is en route, it is expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. Therefore, each receiver under the en route path would experience two overflights for each delivery served by the corresponding en route flight path.

Table 7 provides the estimated DNL for a receiver on the ground directly under an en route path for various counts of daily average DNL equivalent deliveries. The en route noise calculated for each delivery includes both the outbound traversal of the en route path at 200 feet AGL and a ground speed of 58.3 knots and the inbound traversal of the en route path at 345 feet AGL and the same ground speed of 58.3 knots.

The drone may overfly locations at operational levels that differ from both an inbound and outbound traversal of the en route path by the drone as described above and presented in **Table 7**. For these circumstances, **Table 8** presents the equations for calculating the estimated DNL for a receiver directly under a specified given number of DNL equivalent average daily individual overflights, defined as N_o.

Table 7. Estimated Noise Exposure Directly Under En Route Flight Paths

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure		
Average Daily	Annual	Outbound DNL[1]	Inbound DNL[2]	Total En Route DNL
<= 1	<= 365	14.3	11.5	16.1
<= 5	<= 1,825	21.3	18.5	23.1
<= 10	<= 3,650	24.3	21.5	26.1
<= 15	<= 5,475	26.1	23.3	27.9
<= 20	<= 7,300	27.3	24.5	29.1
<= 40	<= 14,600	30.3	27.5	32.2
<= 60	<= 21,900	32.1	29.3	33.9
<= 80	<= 29,200	33.3	30.5	35.2
<= 100	<= 36,500	34.3	31.5	36.1
<= 120	<= 43,800	35.1	32.3	36.9
<= 140	<= 51,100	35.8	33.0	37.6
<= 160	<= 58,400	36.3	33.5	38.2
<= 180	<= 65,700	36.9	34.1	38.7
<= 200	<= 73,000	37.3	34.5	39.1
<= 220	<= 80,300	37.7	34.9	39.6
<= 240	<= 87,600	38.1	35.3	39.9
<= 260	<= 94,900	38.4	35.6	40.3
<= 280	<= 102,200	38.8	36.0	40.6
<= 300	<= 109,500	39.1	36.3	40.9
<=320	<= 116,800	39.4	36.6	41.2
<= 340	<= 124,100	39.6	36.8	41.4
<= 360	<= 131,400	39.9	37.1	41.7
<= 380	<= 138,700	40.1	37.3	41.9
<= 400	<= 146,000	40.3	37.5	42.2
<= 420	<= 153,300	40.5	37.7	42.4
<= 440	<= 160,600	40.7	37.9	42.6
<= 460	<= 167,900	40.9	38.1	42.8
<= 480	<= 175,200	41.1	38.3	42.9
<= 500	<= 182,500	41.3	38.5	43.1
<= 520	<= 189,800	41.5	38.7	43.3
<= 540	<= 197,100	41.6	38.8	43.5
<= 560	<= 204,400	41.8	39.0	43.6
<= 580	<= 211,700	41.9	39.1	43.8
<= 600	<= 219,000	42.1	39.3	43.9
<= 620	<= 226,300	42.2	39.4	44.1
<= 640	<= 233,600	42.4	39.6	44.2
<= 660	<= 240,900	42.5	39.7	44.3
<= 680	<= 248,200	42.6	39.8	44.5
<= 700	<= 255,500	42.8	40.0	44.6
<= 720	<= 262,800	42.9	40.1	44.7
<= 740	<= 270,100	43.0	40.2	44.8
<= 760	<= 277,400	43.1	40.3	44.9
<= 780	<= 284,700	43.2	40.4	45.1
<= 800	<= 292,000	43.3	40.5	45.2
<= 820	<= 299,300	43.4	40.6	45.3

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure		
Average Daily	Annual	Outbound DNL[1]	Inbound DNL[2]	Total En Route DNL
<= 840	<= 306,600	43.5	40.7	45.4
<= 860	<= 313,900	43.6	40.8	45.5
<= 880	<= 321,200	43.7	40.9	45.6
<= 900	<= 328,500	43.8	41.0	45.7
<= 920	<= 335,800	43.9	41.1	45.8
<= 940	<= 343,100	44.0	41.2	45.9
<= 960	<= 350,400	44.1	41.3	46.0
<= 980	<= 357,700	44.2	41.4	46.0
<= 1,000	<= 365,000	44.3	41.5	46.1

SOURCE: ESA, 2025.

Notes:

1. The max weight en route noise calculated for each delivery includes both the outbound traversal of the en route path at 200 feet AGL and a ground speed of 58.3 knots.

2. The empty weight en route noise calculated for each delivery includes both the inbound traversal of the en route path at 345 feet AGL and a ground speed of 58.3 knots.

Table 8. Estimated Noise Exposure Directly Under Overflights

Altitude of Overflight	SEL for One Overflight (dB)	DNL for One Overflight Between 7 A.M. and 10 P.M. (dB)	DNL Equation for the Number of DNL Equivalent Overflights
115 feet AGL	66.7	17.5	$10 \times \log_{10}(No) + 17.5$
160 feet AGL	64.9	15.7	$10 \times \log_{10}(No) + 15.5$
165 feet AGL	64.7	15.5	$10 \times \log_{10}(No) + 15.5$
180 feet AGL	64.3	15.1	$10 \times \log_{10}(No) + 15.1$
200 feet AGL	63.7	14.5	$10 \times \log_{10}(No) + 14.5$
300 feet AGL	61.5	12.3	$10 \times \log_{10}(No) + 12.3$
345 feet AGL	60.7	11.5	$10 \times \log_{10}(No) + 11.5$
N Feet AGL	$12.5 \times \log_{10}(200/N_{ft}) + 63.7$	$SEL_1 - 49.4$	$10 \times \log_{10}(No) + DNL_1$

SOURCE: ESA, 2025.

Notes:

1. The DNL value for a given number of average DNL Equivalent Operations, N_o, can be found by using the equations associated with operation of the drone at a specified altitude and speed interval. In this case, one operation represents a single overflight.

2. All values in this table are for level flight at maximum weight and 58.3 knots.

4.3 Noise Exposure for Operations at Delivery Point

Table 9 presents the estimated DNL values for a range of potential daily average DNL equivalent delivery counts at a delivery point. The DNL values include the transition from en route speed to vertical flight at transition altitude, the delivery maneuver, and the transition from vertical flight at transition altitude to en route speed as discussed in **Section 3.4.3**. The minimum listener distance is 16.4 feet from the delivery point and corresponds to minimum distance between a person and delivery point. Values are also presented at 25 feet from the delivery point which corresponds to minimum distance from the available measurement data and analysis. Values were also calculated at distances

of 50 feet, 75 feet, 100 feet, and 125 feet from the delivery point and are representative of distances from which nearby properties may experience noise from a delivery.[7]

Table 9. Estimated Noise Exposure at Various Distances from a Delivery Point per Number of DNL Equivalent Deliveries

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet[1]	DNL at 25 feet[2]	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 1	<= 365	45.0	42.7	38.8	36.4	34.1	32.3
<= 5	<= 1,825	52.0	49.7	45.8	43.4	41.1	39.3
<= 10	<= 3,650	55.0	52.7	48.8	46.4	44.1	42.3
<= 15	<= 5,475	56.7	54.5	50.5	48.2	45.9	44.1
<= 20	<= 7,300	58.0	55.7	51.8	49.5	47.2	45.3
<= 40	<= 14,600	61.0	58.7	54.8	52.5	50.2	48.4
<= 60	<= 21,900	62.8	60.5	56.5	54.2	51.9	50.1
<= 80	<= 29,200	64.0	61.7	57.8	55.5	53.2	51.4
<= 100	<= 36,500	65.0	62.7	58.8	56.4	54.1	52.3
<= 120	<= 43,800	65.8	63.5	59.6	57.2	54.9	53.1
<= 140	<= 51,100	66.4	64.2	60.2	57.9	55.6	53.8
<= 160	<= 58,400	67.0	64.7	60.8	58.5	56.2	54.4
<= 180	<= 65,700	67.5	65.3	61.3	59.0	56.7	54.9
<= 200	<= 73,000	68.0	65.7	61.8	59.5	57.2	55.3
<= 220	<= 80,300	68.4	66.1	62.2	59.9	57.6	55.8
<= 240	<= 87,600	68.8	66.5	62.6	60.2	57.9	56.1
<= 260	<= 94,900	69.1	66.8	62.9	60.6	58.3	56.5
<= 280	<= 102,200	69.5	67.2	63.2	60.9	58.6	56.8
<= 300	<= 109,500	69.8	67.5	63.5	61.2	58.9	57.1
<=320	<=116,800	70.0	67.8	63.8	61.5	59.2	57.4
<= 340	<= 124,100	70.3	68.0	64.1	61.8	59.5	57.6
<= 360	<= 131,400	70.6	68.3	64.3	62.0	59.7	57.9
<= 380	<= 138,700	70.8	68.5	64.6	62.2	59.9	58.1
<= 400	<= 146,000	71.0	68.7	64.8	62.5	60.2	58.4
<= 420	<= 153,300	71.2	68.9	65.0	62.7	60.4	58.6
<= 440	<= 160,600	71.4	69.1	65.2	62.9	60.6	58.8
<= 460	<= 167,900	71.6	69.3	65.4	63.1	60.8	59.0
<= 480	<= 175,200	71.8	69.5	65.6	63.3	61.0	59.1
<= 500	<= 182,500	72.0	69.7	65.8	63.4	61.1	59.3
<= 520	<= 189,800	72.1	69.9	65.9	63.6	61.3	59.5
<= 540	<= 197,100	72.3	70.0	66.1	63.8	61.5	59.7
<= 560	<= 204,400	72.5	70.2	66.2	63.9	61.6	59.8
<= 580	<= 211,700	72.6	70.3	66.4	64.1	61.8	60.0
<= 600	<= 219,000	72.8	70.5	66.5	64.2	61.9	60.1
<= 620	<= 226,300	72.9	70.6	66.7	64.4	62.1	60.3
<= 640	<= 233,600	73.1	70.8	66.8	64.5	62.2	60.4
<= 660	<= 240,900	73.2	70.9	67.0	64.6	62.3	60.5

[7] The 2022 US Census national average lot size for single-family sold homes was 15,265 square feet. This is representative of a property with dimensions of a 123.55 x 123.55-foot square. 125 feet represents a 125-foot lateral width of the parcel rounded up to the nearest 25 feet. https://www.census.gov/construction/chars/ See file "Soldlotsize_cust.xls" sheet MALotSizeSold. Accessed January 18, 2024.

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet[1]	DNL at 25 feet[2]	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 680	<= 248,200	73.3	71.0	67.1	64.8	62.5	60.7
<= 700	<= 255,500	73.4	71.2	67.2	64.9	62.6	60.8
<= 720	<= 262,800	73.6	71.3	67.3	65.0	62.7	60.9
<= 740	<= 270,100	73.7	71.4	67.5	65.1	62.8	61.0
<= 760	<= 277,400	73.8	71.5	67.6	65.3	62.9	61.1
<= 780	<= 284,700	73.9	71.6	67.7	65.4	63.1	61.3
<= 800	<= 292,000	74.0	71.7	67.8	65.5	63.2	61.4
<= 820	<= 299,300	74.1	71.8	67.9	65.6	63.3	61.5
<= 840	<= 306,600	74.2	71.9	68.0	65.7	63.4	61.6
<= 860	<= 313,900	74.3	72.0	68.1	65.8	63.5	61.7
<= 880	<= 321,200	74.4	72.1	68.2	65.9	63.6	61.8
<= 900	<= 328,500	74.5	72.2	68.3	66.0	63.7	61.9
<= 920	<= 335,800	74.6	72.3	68.4	66.1	63.8	62.0
<= 940	<= 343,100	74.7	72.4	68.5	66.2	63.9	62.1
<= 960	<= 350,400	74.8	72.5	68.6	66.3	64.0	62.2
<= 980	<= 357,700	74.9	72.6	68.7	66.4	64.1	62.2
<= 1,000	<= 365,000	75.0	72.7	68.8	66.4	64.1	62.3

SOURCE: ESA, 2025.

Notes:

1. Minimum possible listener distance from drone.
2. Minimum measured distance to listener from drone.
3. The DNL values presented in this table reflect the drone conducting delivery descent and transition, backyard descent, delivery, backyard ascent, and transition and inbound climb flight maneuvers associated with a delivery.
4. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.

Attachment A

Attachment B

PRIME AIR MK30 DRONE NOISE MEASUREMENT REPORT

Technical Report

April 2025

ESA

PRIME AIR MK30 DRONE NOISE MEASUREMENT REPORT

Technical Report

April 2025

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1 Introduction

This document details Amazon Prime Air's (Prime Air's) recent National Environmental Policy Act (NEPA) Noise Data Collection Campaign, aimed at estimating the noise signature of the MK30 drone. The collected data will be used to evaluate operations under NEPA. The test campaign took place at the Pendleton UAS Range, situated at the Eastern Oregon Regional Airport (KPDT) in Pendleton, Oregon. The data analyzed in this report comes from flights conducted on October 11, 12, 15, 16, 19, and 23, 2024.

Prime Air's package delivery operations are managed through a network of Prime Air Drone Delivery Centers (PADDCs). Each PADDC serves a specific area, preventing an over-concentration of flights around any single center. The MK30 drone has a round-trip range of approximately 15 miles. PADDCs are strategically located in established, and planned development, parking lots of Amazon Prime warehouses, and adhere to local zoning and land use regulations.

The MK30 is an electric powered drone that uses a vertical take-off and landing (VTOL) then transitions to fixed-wing flight using wing lift during en route flight. The drone systems include hardware and software designed for safety and efficiency. The airframe is composed of staggered wings, the propulsion system includes a rechargeable lithium-ion battery, and six (6) motors that include propellers designed for noise reduction. The package delivery system contains the package in a two-door interior receptacle, and a camera and avionics system that has redundancy for critical systems. The drone weighs approximately 78 lbs. and has a maximum takeoff weight of 83.2 lbs., which includes a maximum payload of 5 lbs. It has a maximum operating range of 7.5 mi and can fly up to 400 ft above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during horizontal flight. An image of the MK30 drone is shown in **Figure 1**.

The MK30 operational flight profiles can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, the MK30 would ascend to an altitude of less than 400 ft AGL and follow a predefined route to its delivery site.[1] The MK30 would typically fly en route at between approximately 180 to 377 ft AGL, except when descending to drop a package. Packages would be carried internally in the drone's fuselage. When making a delivery, the drone descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft AGL. Prime Air's drone would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage.[2] After the package is dropped, the MK30 drone climbs vertically and follows its predefined route back to the PADDC at its assigned altitude. The typical operational flight parameters can be seen below in **Table 1** and **Figure 2**. Note that these are the flight profiles for operational flights and not the flight test profiles for this noise flight test campaign.

[1] Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

[2] The MK30 vehicle is built with multiple redundant safety features and "detect and avoid" technology. The drone is designed to handle unexpected situations; it is independently safe.

A custom measurement system was utilized, employing GRAS 46AO 1/2" pressure microphones and National Instruments data acquisition hardware, following the FAA's draft UA package delivery noise measurement protocol.[3] Flights were conducted across three flight profiles, which included takeoff/landing/delivery, hover, and overflight, to characterize the sound exposure levels (SEL) of the MK30 drone. These SEL values will be a key input to the NEPA Environmental Assessment for assessing the potential noise impact of Prime Air's proposed drone package delivery operations.

Figure 1. Amazon Prime Air MK30 Drone

Source: Amazon Prime Air, 2024.

[3] Measuring Drone Noise for Environmental Review Process, October 2023.

Table 1. Phases of Flight for Typical Flight Profile of the MK30 Drone

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 115	0	15
Transition and Outbound Climb	115 to 200	0 to 58.3	40
Fixed Wing Outbound Cruise	200[1]	58.3	Variable[3]
Delivery Descent and Transition	Descent from 200 to 140	58.3 to 0	30
Backyard Descent	Descent from 140 to 13	0	27
Delivery	13	0	4
Backyard Ascent	Ascent from 13 to 197	0	30
Transition and Inbound Climb	Ascent from 197 to 345	0 to 58.3	40
Fixed-Wing Inbound Cruise	377[2]	58.3	Variable[3]
Landing Descent and Transition	Descent from 345 to 197	58.3 to 0	30
Vertical Descent and landing	Descent from 197 to 0	0	35

Source: Prime Air, 2025.

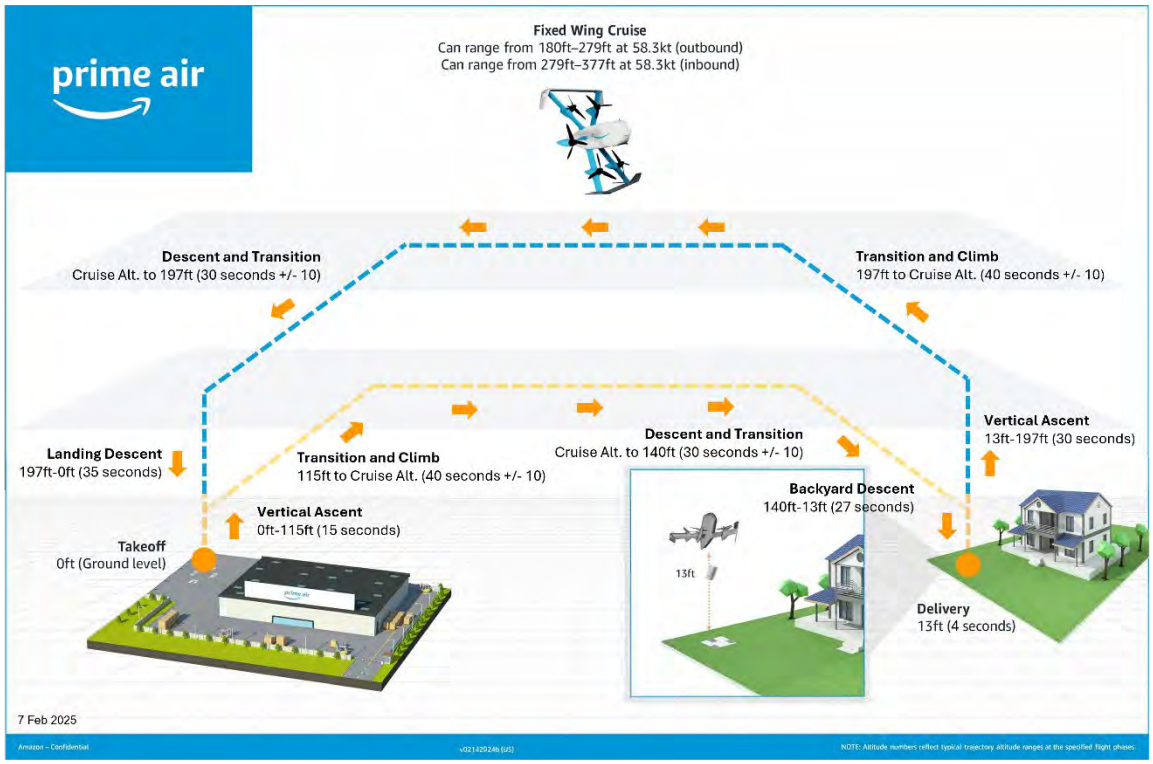
Notes:

[1] The outbound enroute altitude may range from 180 – 279 feet. For this analysis the outbound cruise altitude was assumed to be 200 feet.

[2] The inbound enroute altitude may range from 279 – 377 feet. For this analysis the inbound cruise altitude was assumed to be 345 feet.

[3] Duration of inbound and outbound cruise flight time varies based on distance to customer.

Figure 2. Representative Operational Profile of the MK30



Source: Prime Air, 2025.

2 Test Descriptions

2.1 Overview

This section describes the methodology utilized to characterize the noise signature of the MK30 drone. The following sections describe the measurement system, and detailed description of the test plan, including flight trajectories and microphone locations.

2.2 Measurement System

Prime Air utilized a proprietary Mobile Acoustic Noise Test Array (MANTA) system for experimental measurements. This system provides time synchronized audio with respect to the drone. Microphone locations are surveyed for accurate positioning. The audio, drone-synchronized time and location data allow accurate determination of sound pressure level (SPL), distance, and incidence angle required for post-processing.

The system is composed of commercially available hardware with internal and external calibrations. The data acquisition system (DAQ) is a series of daisy-chained National Instruments cDAQ-9185 units and cDAQ-9189 units with NI-9234 analog modules capable of 51.2 kHz sampling rate at 24-bit resolution. New and calibrated GRAS 46AO ½" CCP Pressure Standard Microphones were used with the factory sensitivity values for the test. Calibration tones of the microphones were collected using a GRAS 42AG sound calibrator with a 1000 Hz signal at 114dB at the start and completion of each flight. Sensitivity values can be found in **Table 2**. While the primary components of the system are detailed above, the complete system hardware can be found in **Table 3**.

Measurement accuracy can be decomposed into system and field-installation components. Although MANTA has a GPS assigned to each microphone unit, only the time solution is used in the final product. By assigning a separate GPS unit to each microphone, the system is able to time synchronize with the on-board vehicle system to within 1 ms accuracy. Although the GPS location solution is not part of the delivered data product, it is used to confirm microphone placement with respect to desired survey locations using a nearest neighbor algorithm. This reduces geographic microphone placement from ±1 m to ±5 mm before installation error. When including a ±30◦. installation error via a 1.6m tall tripod on non-level ground, horizontal and vertical location accuracy approach ±0.8m and ±0.1m, respectively.

Table 2. Microphone Data

Microphone ID	Hardware	Serial Number	Sensitivity (mV/Pa)
00	GRAS 46AO	573631	10.77
01	GRAS 46AO	573508	9.47
02	GRAS 46AO	573632	11.60
03	GRAS 46AO	573507	12.54
04	GRAS 46AO	573633	10.81
05	GRAS 46AO	573636	10.41
06	GRAS 46AO	573506	11.12
07	GRAS 46AO	573505	12.78
08	GRAS 46AO	573504	9.39
08	GRAS 46AO	573504	9.39
10	GRAS 46AO	573521	10.10
11	GRAS 46AO	573626	10.19
12	GRAS 46AO	573639	9.78

Source: Prime Air, 2024.

Note: Microphones calibrated with GRAS 42AG; Serial Number: 282324.

Table 3. Measurement System Hardware

Hardware	Quantity	Description
National Instruments cDAQ-9185	7	National Instruments cDAQ chassis with 4 module slots. 1 slot was utilized and populated with a NI-9234 4 channel Sound and Vibration module. 1 channel input was used for the GRAS 46AO microphone input.
National Instruments cDAQ-9189	3	National Instruments cDAQ chassis with 8 module slots. 1 slot was utilized and populated with a NI-9234 4 channel Sound and Vibration module. 2 channel inputs were used for the GRAS 46AO microphone input.
National Instruments Sound and Vibration Module NI-9234	10	The Sound and Vibration module used for microphone input to the system. The nidaqmx task was configured to capture microphone input at 51.2kHz at 24bits.

Source: Prime Air, 2024.

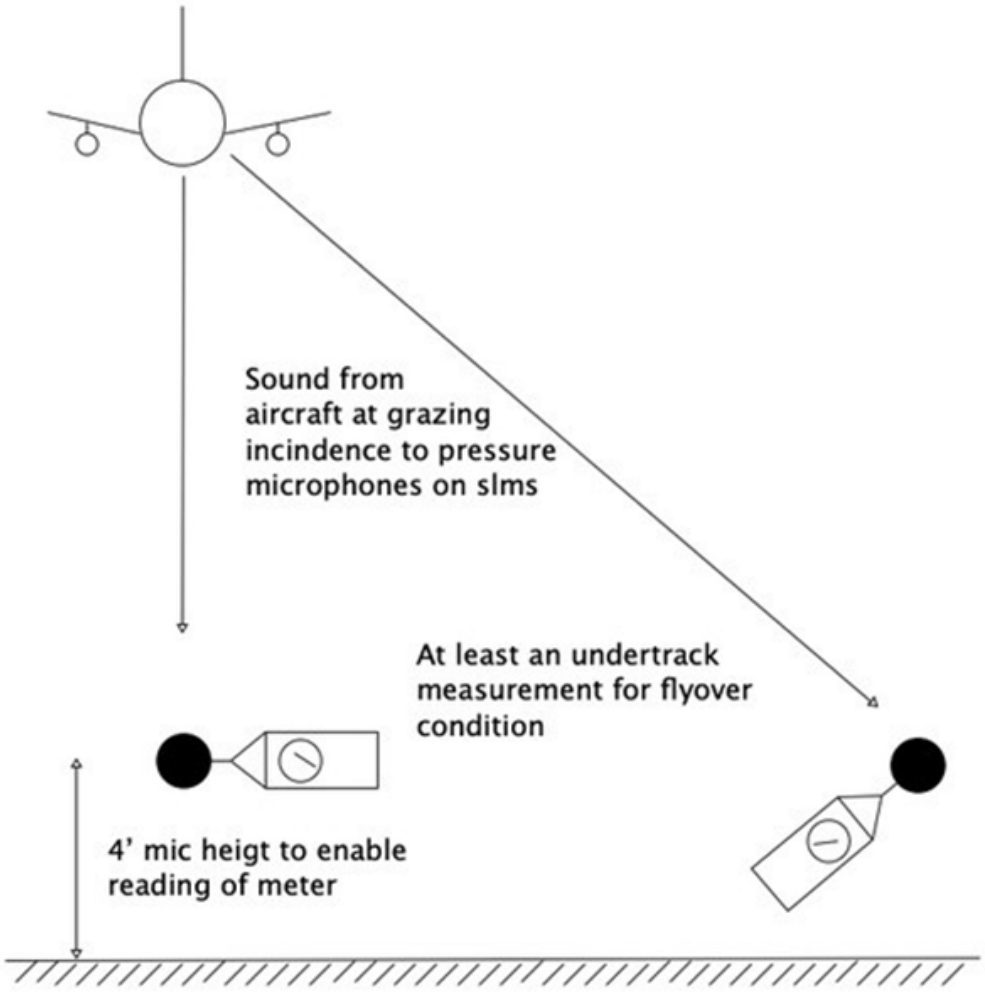
Note: All cDAQs were daisy chained together and utilized the Time-Sensitive Networking protocol to keep all data synchronized.

2.3 Microphone Locations

The microphone setup consisted of 13 pressure field microphones. In accordance with the FAA guidelines, each microphone was placed at 90 degree incidence to the sound source (drone) and is illustrated in **Figure 3**. There were no corrections applied to the measurement data due to the orientation of the microphones.

As shown in **Table 4**, microphones 00-04 were located under the takeoff, delivery, and landing flight trajectory. Microphones 05-08 were located behind the flight trajectory. Microphones 09-12 were located lateral to the flight trajectory. The table identifies the microphones used in calculating the various flight profiles. **Figure 4** provides the layout of microphones over an aerial basemap.

Figure 3. Microphone Orientation



Source: FAA.

Table 4. Microphone Location and Applicable Flight Profile

Microphone ID (position)	Distance from VTOL / Delivery (ft)	Latitude	Longitude	Applicable Flight Profile		
				Takeoff/ Landing	Delivery	Enroute/ Overflight
00 (Undertrack)	772	45.70246	-118.8586	Yes	Yes	No
01 (Undertrack)	372	45.70247	-118.8571	Yes	Yes	No
02 (Undertrack)	195	45.70247	-118.8563	Yes	Yes	No
03 (Undertrack)	75	45.70247	-118.8559	Yes	Yes	No
04 (Undertrack)	20	45.70247	-118.8557	Yes	Yes	No
05 (Behind)	19	45.70246	-118.8555	Yes	Yes	No
06 (Behind)	79	45.70247	-118.8553	Yes	Yes	No
07 (Behind)	176	45.70247	-118.8549	Yes	Yes	No
08 (Behind)	375	45.70247	-118.8541	Yes	Yes	No
09 (Lateral)	25	45.7024	-118.8556	Yes	Yes	Yes
10 (Lateral)	76	45.70227	-118.8556	Yes	Yes	Yes
11 (Lateral)	175	45.70199	-118.8556	Yes	Yes	Yes
12 (Lateral)	375	45.70144	-118.8556	Yes	Yes	Yes

Source: Prime Air, 2024.

Figure 4. Location of Microphones to Launch Pad

Source: Prime Air, 2024; ESA, 2025.

2.4 Test Limitations

The test plan consists of flights with a “dog-bone” and “half dog-bone” trajectory while the MANTA (detailed in 2.2) is positioned at the vicinity of the delivery/takeoff/landing PADDC and along a parallel and perpendicular line to the flyover trajectory. Close-in and distant measurements were captured for all VTOL phases of flight.

Additionally, some phases of the test flight profiles were slightly modified from typical operations. The duration of the delivery backyard climb was, on average, 16 seconds shorter than expected for typical operation. During the test flight the drone also climbed to a lower altitude of approximately 200 feet AGL, compared to the typical 345-foot AGL ceiling. To adjust, noise measurements were manually added at the point just before the MK30 stops climbing, where the climb rate is constant, to account for the total missing duration.

Similarly, for the return to the PADDC, the VTOL descent was, on average, 10 seconds shorter than typical operations. To adjust, noise measurements were manually added at the point just after the MK30 starts its vertical descent, where the descent rate is constant, to account for the total missing duration. Both adjustments provided a conservative (i.e., louder) approach to assessing noise exposure of the MK30.

3 Measurement Profiles

3.1 Overview

The noise measurement data for each test was reviewed and takeoff, delivery, landing, and overflight events were hand-selected for each test flight based on the drone’s altitude, speed, location, and distance from the PADDC and MANTA. Events were reviewed for each test flight and each microphone in the MANTA was checked for data quality, and were discarded based on the following criteria:

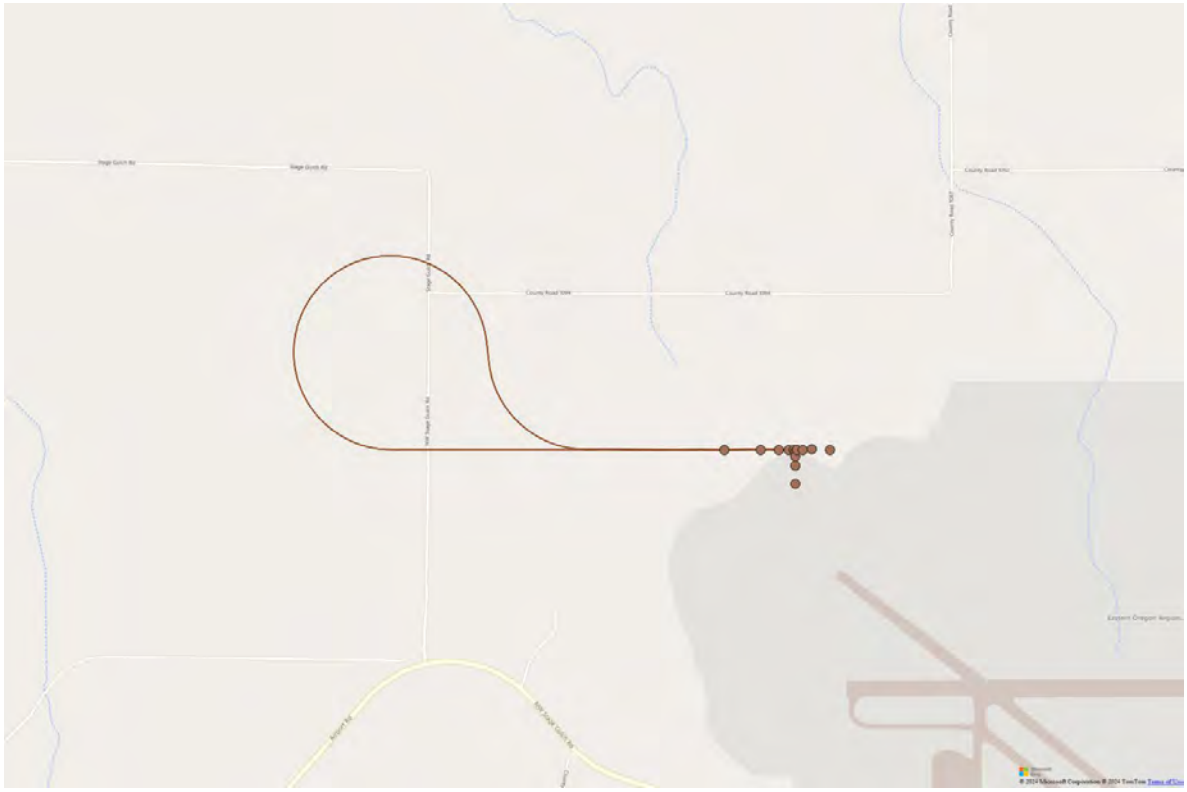
- Ambient noise level of the microphone is not reasonably close to the other microphones in the MANTA array.
- Average wind speed exceeding 5 knots during the event.
- Maximum sound level as measured by the 1-second Leq time history of the noise event not exceeding 10 dBA above the ambient noise level.
- Suspected contamination of the noise data (e.g. elevated or inconsistent ambient, sharp spikes in noise level, etc.).
- For overflight tests, data from the undertrack microphones (parallel to the direction of flight) were discarded.

3.2 Flight Test Profiles

3.2.1 Takeoff – Delivery – Landing (VTOL)

Two sets of tests were conducted with the drone performing VTOL flights at the PADDC location at the center of the MANTA to simulate takeoff, delivery, and landing operations. A total of six test flights were measured with the drone carrying no payload, and an additional seven test flights were measured with the drone carrying maximum payload. For each of these test flights the drone was flown in a "half dog-bone" flight pattern, as shown in **Figure 5**. As depicted, the drone takes off from the PADDC, and heads west before making a righthand turn through a full 270 degrees while attaining a cruise altitude of approximately 200 feet AGL. The drone then makes a left-hand 90 degree turn to re-align with the outbound flight path while descending back to PADDC elevation. The drone performs this flight pattern twice per test flight. The first outbound leg represents the takeoff phase of flight, the first inbound and second outbound legs combined represent the delivery phase of flight, and the second inbound leg represents the landing phase of flight. The drone only touches down after the second inbound leg representing the landing phase.

Figure 5. Takeoff, Delivery, and Landing Flight Pattern (Empty and MTOW)



3.2.2 Forward Flight (Flyover)

Two sets of tests were conducted with the drone overflying the MANTA to simulate an en route pass-by. A total of seven overflights were measured with the drone carrying no payload, and an additional six overflights were measured with the drone carrying maximum payload. For each of these overflights the drone was flown in a "dog-bone" flight pattern, as shown in **Figure 6**. As depicted, the drone takes off from the PADDC, heads northwest to transition and makes a lefthand turn while attaining a cruise altitude of 104 feet AGL at empty weight and 123 feet AGL at max weight.[4] It then flies over the MANTA, then performs another lefthand turn through a full 270 degrees before turning right 90 degrees to realign with the eastbound portion of the flight path before overflying the MANTA again, and finally reversing the original outbound route back to the PADDC. This maneuver was repeated for each flight in both the max and empty weight test scenarios.

Figure 6. Flyover Flight Pattern (Empty and MTOW)

[4] Empty and max weight en route flight tests were flown at different altitudes to ensure measurement was above ambient noise levels.

3.3 Test Condition: Takeoff (Max Weight)

3.3.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 5**. There were no weather exceedances that would deem measurements invalid.

Table 5. Takeoff (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	49.3	4.4	114	6.2	56.5
2	55.5	2.0	165	3.5	43.9
3	59.7	4.0	275	7.4	36.4
4	60.1	3.6	233	7.0	35.6
5	50.0	3.4	101	4.3	52.7
6	45.8	4.0	90	4.9	62.5
7	47.8	4.0	121	6.2	60.2

Source: Prime Air, 2024; ESA, 2025.

3.3.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 91 data points, 17 were identified as invalid, as detailed in the **Table 6**. Therefore, 74 data points were deemed valid.

Table 6. Takeoff (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00 (Undertrack)	7	Measurement too close to ambient
Mic 05 (Behind)	4	Elevated ambient levels across measurement
Mic 08 (Behind)	1, 5, 6, 7	Measurement too close to ambient
Mic 09 (Lateral)	1, 2, 3, 4, 5	Elevated ambient levels across measurement
Mic 12 (Lateral)	2, 3, 4, 5, 6, 7	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.4 Test Condition: Delivery (Max Weight)

3.4.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 7**. There were no weather exceedances that would deem measurements invalid.

Table 7. Delivery (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	49.1	4.1	123	6.0	56.6
2	55.6	1.2	260	3.7	43.5
3	59.8	5.0	283	7.4	36.3
4	60.3	4.6	222	6.2	35.2
5	50.6	2.9	92	4.3	52.3
6	45.8	4.5	93	4.9	62.8
7	47.9	4.2	112	6.2	59.7

Source: Prime Air, 2024; ESA, 2025.

3.4.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 91 data points, 14 were identified as invalid, as detailed in **Table 8**. Therefore, 77 data points were deemed valid.

Table 8. Delivery (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00 (Undertrack)	7	Elevated ambient levels across measurement
Mic 08 (Behind)	5, 6, 7	Measurement too close to ambient
Mic 09 (Lateral)	1, 2, 3, 4, 5	Elevated ambient levels across measurement
Mic 12 (Lateral)	2, 3, 4	Elevated ambient levels across measurement
Mic 12 (Lateral)	5, 6	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.5 Test Condition: Landing (Empty Weight)

3.5.1 Weather Conditions

The average weather conditions for each test at empty weight are in **Table 9**. Test 3 wind speed exceeded the weather threshold for wind and would invalidate the measurement.

Table 9. Landing (Empty Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	51.5	3.4	309	6.8	61.3
2	62.4	1.2	298	6.0	33.0
3	61.4	5.2	321	7.8	34.7
4	59.9	3.4	271	5.2	44.6
5	42.6	4.8	118	5.6	83.0
6	56.8	1.0	108	2.1	51.1

Source: Prime Air, 2024; ESA, 2025.

3.5.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 78 data points, 35 were identified as invalid, as detailed in **Table 10**. Therefore, 43 data points were deemed valid.

Table 10. Landing (Empty Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00-12 (all)	3[1]	Exceeds crosswind component
Mic 01	4	Elevated ambient levels across measurement
Mic 05	1, 4, 6	Elevated ambient levels across measurement
Mic 08	4, 5, 6	Elevated ambient levels across measurement
Mic 09	1, 6	Elevated ambient levels across measurement
Mic 10	2	Elevated ambient levels across measurement
Mic 12	2	Elevated ambient levels across measurement
Mic 00	1, 2, 4, 5, 6	Measurement too close to ambient
Mic 01	5	Measurement too close to ambient
Mic 08	1	Measurement too close to ambient
Mic 11	5	Measurement too close to ambient
Mic 12	1, 4, 6	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes:

Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

[1] Test 3 was invalid for all microphone positions and accounts for 13 data points.

3.6 Test Condition: Flyover (Empty Weight)

3.6.1 Weather Conditions

The average weather conditions for each test at empty weight are shown in **Table 11**. Test 3-1, 3-2, and 4-2 wind speeds exceeded the weather threshold for wind and would invalidate the measurement.

Table 11. Flyover (Empty Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1-1	45.3	4.0	102	4.5	62.8
1-2	45.5	3.8	93	4.5	62.2
2-1	65.1	2.4	177	4.1	38.7
2-2	65.1	3.0	213	4.1	38.4
3-1	62.2	5.9	326.2	10.9	34.6
3-2	62.8	7.5	312.6	10.9	35.6
4-1	63.3	4.3	300	11.1	34.1
4-2	63.9	6.4	353.4	10.7	33.9
5-1	61.3	2.2	320	9.9	37.8
5-2	61.7	3.0	341	9.9	37.4
6-1	61.3	4.4	34	9.1	37.3
6-2	61.0	2.6	22	7.4	37.0
7-1	45.5	4.2	102	4.7	61.5
7-2	45.7	3.9	105	4.7	61.3

Source: Prime Air, 2024; ESA, 2025.

3.6.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 56 data points, 25 were identified as invalid, as detailed in **Table 12**. Therefore, 31 data points were deemed valid.

Table 12. Flyover (Empty Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 09 - 12	3-1, 3-2, 4-2	Exceeds crosswind component
Mic 09	4-1	Measurement too close to ambient
Mic 10	6-2	Measurement too close to ambient
Mic 11	6-1	Elevated ambient levels across measurement
Mic 12	1-1, 1-2, 2-2, 4-1, 5-1, 5-2, 6-1, 6-2, 7-1, 7-2	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.7 Test Condition: Flyover (Max Weight)

3.7.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 13**. There were no weather exceedances that would deem measurements invalid.

Table 13. Flyover (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1-1	53.4	1.6	96.6	4.4	53.8
1-2	53.2	2.9	82.3	4.1	53.6
2-1	48.4	3.3	77.3	5.8	62.8
2-2	49.3	3.6	123.5	5.8	60.9
3-1	54.5	1.7	132.1	3.5	52.2
3-2	54.9	2.2	306.5	3.5	51.3
4-1	56.7	2.1	170.8	3.9	48.7
4-2	56.1	1.9	214.0	4.1	49.2
5-1	50.9	3.3	116.9	4.7	59.1
5-2	51.1	2.7	131.5	4.7	58.6
6-1	65.5	1.6	191.3	4.1	53.5
6-2	65.3	3.7	245.7	7.0	56.7

Source: Prime Air, 2024; ESA, 2025.

3.7.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 48 data points, 12 were identified as invalid, as detailed in **Table 14**. Therefore, 36 data points were deemed valid.

Table 14. Flyover (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 12	All	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

4 Measurement Analysis

A range of metrics were calculated for each event and at each microphone. These metrics include ambient noise level (defined as the noise level when the drone's rotors are not powered), Leq, Maximum Sound Level (Lmax), and SEL. Additional parameters regarding flight performance and weather conditions were also considered. It should be noted that the empty weight takeoff and max weight landing cases are not used in any subsequent analyses.

4.1 Overflight Analysis

As noted in the previous section, only the microphones positioned perpendicular to the flight path were utilized for analyzing the overflight data. For each event and microphone, the measured SEL was adjusted using correction factors to normalize the noise to the speed and distances specified by Prime Air's typical flight profile, as described in Section 1. **Table 15** below outlines the parameters used for normalization.

Table 15. Enroute Normalization Parameters

Test Case	Normalization Speed (knots)	Normalization Distance (ft)
Empty Weight	58.3	345
Max Weight	58.3	200

Source: Prime Air, 2024; ESA, 2025.

The SELs for each microphone were averaged and the highest resulting SEL was selected for use as the computed en route noise level. The results of this analysis are presented in **Table 16** below along with the undertrack distance and point of closest approach (POCA) slant distance. The most conservative empty-weight en route noise level was computed to be 61.0 dBA. The most conservative max-weight en route noise level was computed to be 63.9 dBA. **Figure 7** and **Figure 8** present the range of measured en route SEL's for empty weight and max weight, respectively.

Table 16. En Route Averaged A-Weighted SELs (Empty and Max Weight)

Test Case	Microphone ID (Position)	Undertrack Distance (ft)	POCA Slant Distance (ft)	Normalized SEL[1] (dBA)
Empty Weight	09 (Lateral)	18.4	99.3	60.4
	10 (Lateral)	57.8	112.8	60.9
	11 (Lateral)	152.8	180.8	59.1
Max Weight	09 (Lateral)	20.0	118.4	63.0
	10 (Lateral)	56.0	128.9	63.7
	11 (Lateral)	152.7	191.7	61.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Microphone ID 12 (lateral) is excluded as results were not sufficiently above ambient noise levels.

[1] Measured levels normalized to 58.3 kts before averaging. Using 12.5*log10(POCA Slant / Normalized Adjustment Slant); empty weight normalized to 345 feet; max weight normalized to 200 feet.

Figure 7. Range of MK30 Averaged A-Weighted SELs from En Route at Empty Weight

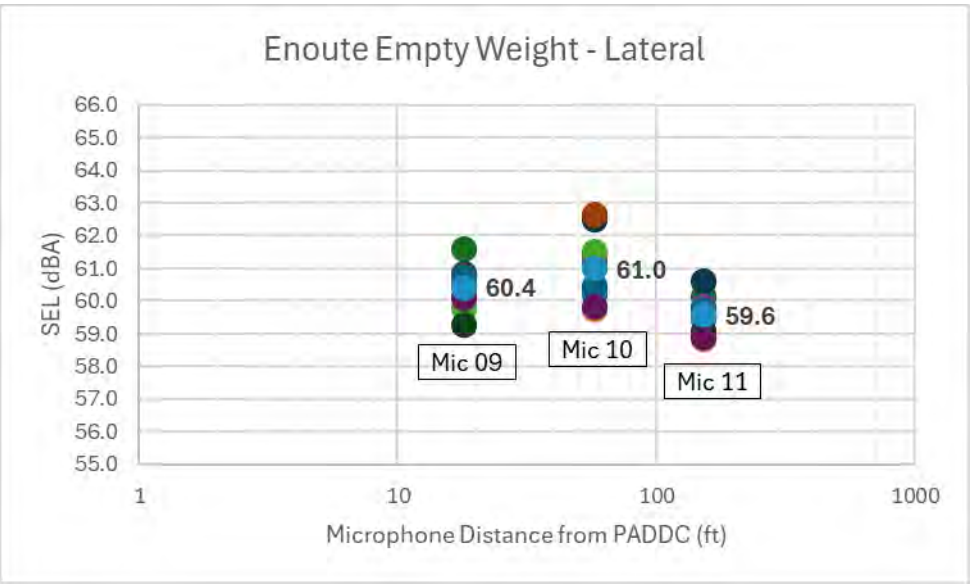
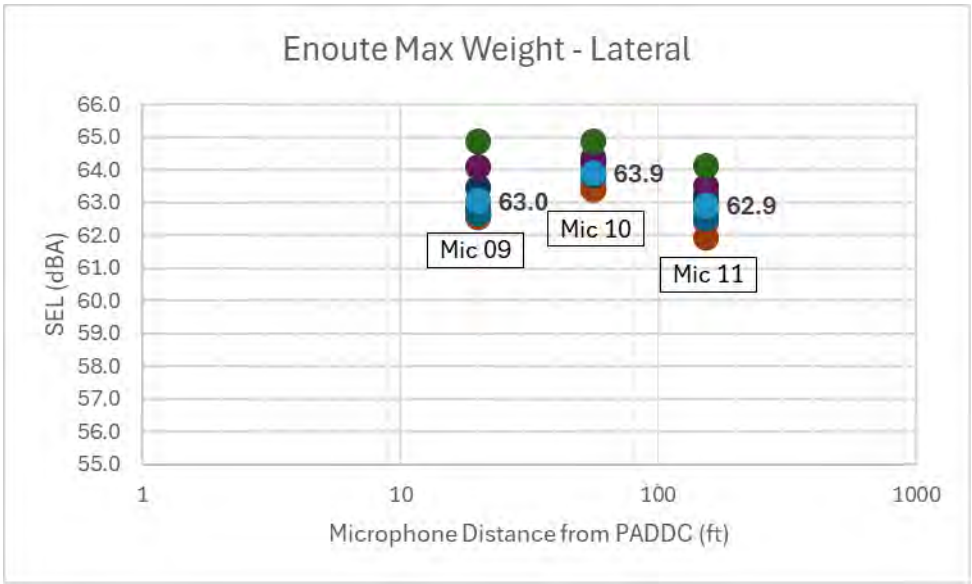


Figure 8. Range of MK30 Averaged A-Weighted SELs from En Route at Max Weight



4.2 VTOL Analysis

For each microphone and each test flight, the takeoff, delivery, and landing SELs were averaged. **Table 17** presents the results for takeoff, delivery, and landing. Scatter plots for these measurements are shown in **Figure 9** through **Figure 17**.

Table 17. Takeoff, Delivery, and Landing Averaged A-Weighted SELs

Distance to PADDC (ft)	Max Weight		Empty Weight
	Takeoff	Delivery	Landing
Undertrack			
20	90.5	91.7	91.8
75	81.6	83.7	82.8
195	76.5	78.8	76.5
372	72.4	74.5	70.4
772	-	69.5	-
Behind			
19	89.8	92.0	91.2
79	80.0	83.2	81.6
176	73.5	77.3	75.3
375	67.3	71.3	70.5
Lateral			
25	88.8	92.1	89.9
76	82.1	85.8	83.2
175	75.5	79.0	76.3
375	68.2	71.1	-

Source: Prime Air, 2024; ESA, 2025.

Figure 9. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Undertrack

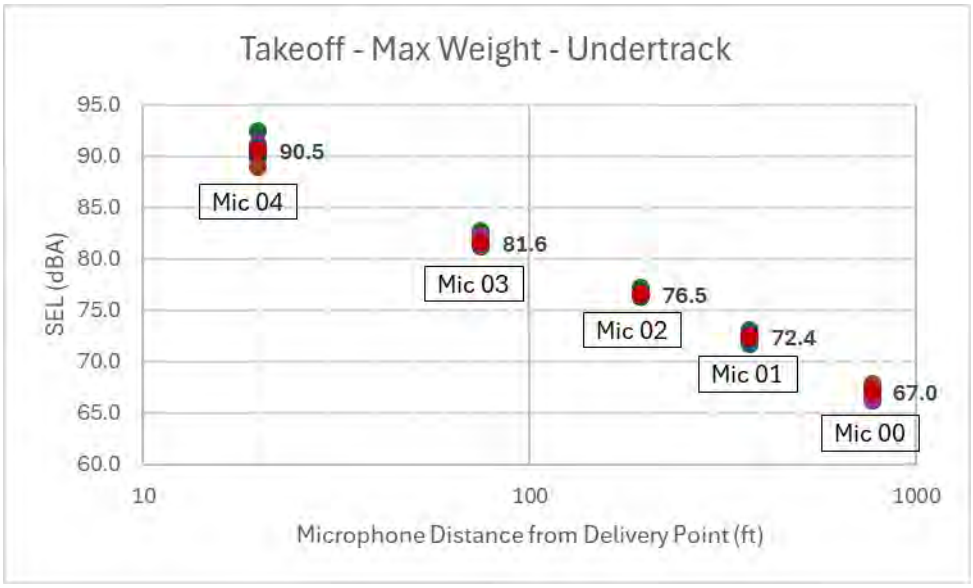


Figure 10. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Behind

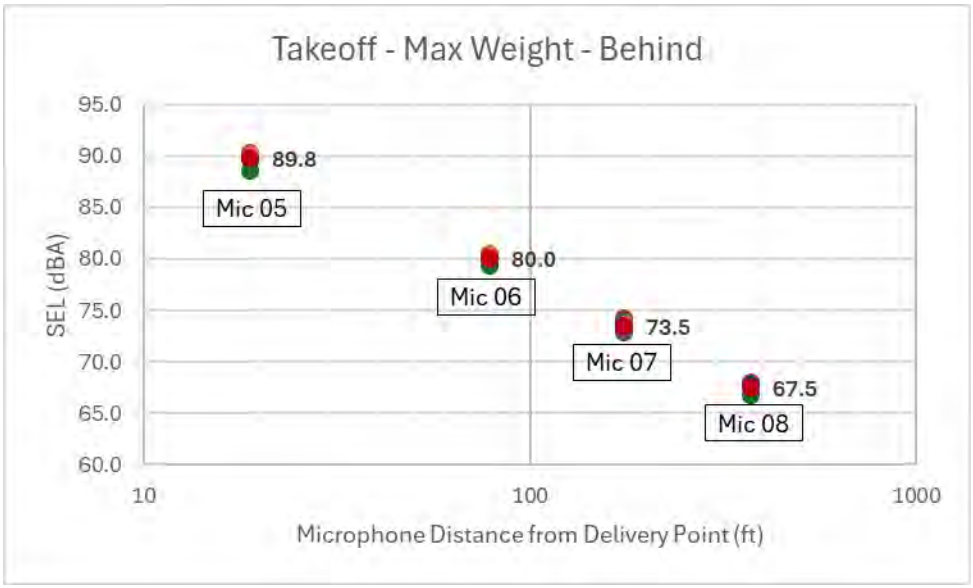


Figure 11. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Lateral

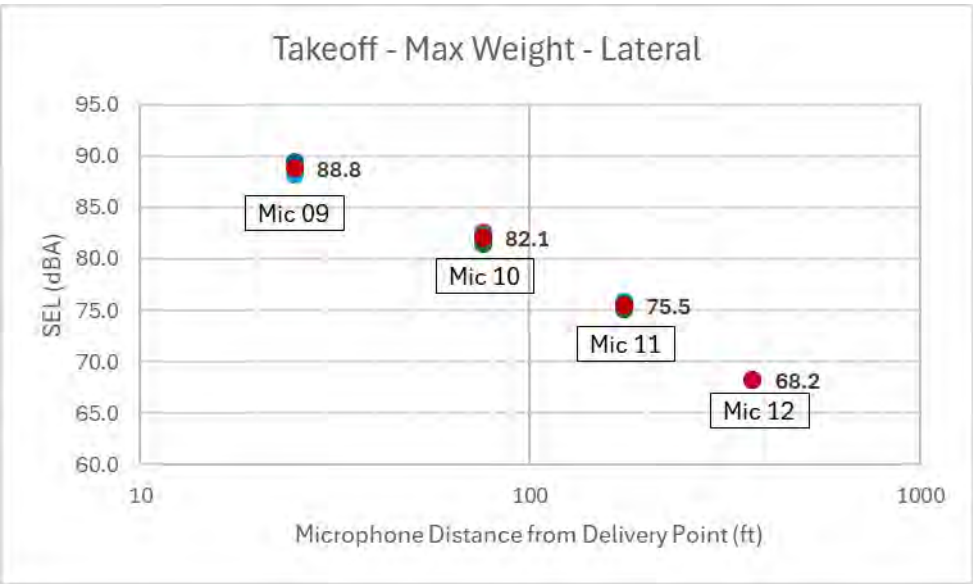


Figure 12. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Undertrack

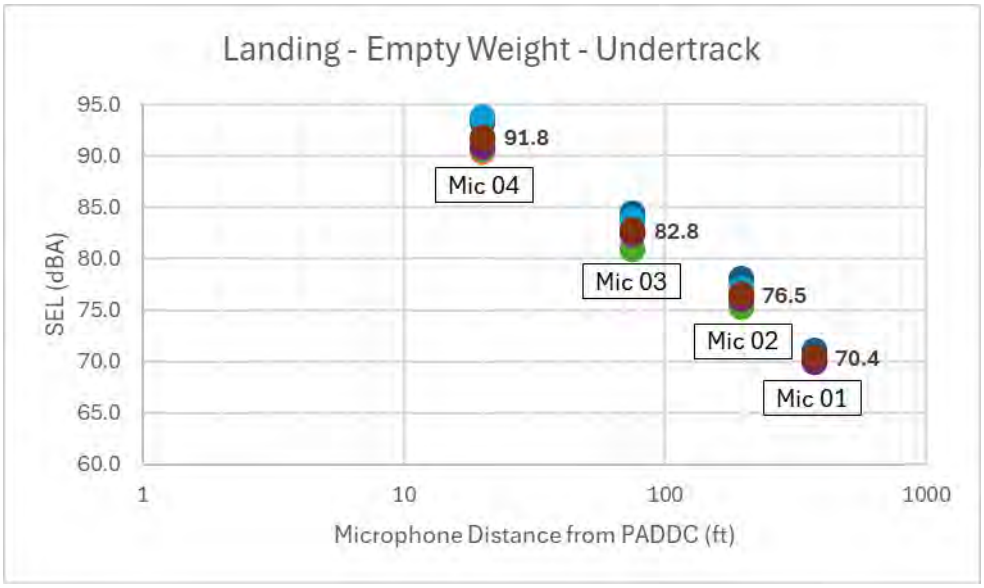


Figure 13. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Behind

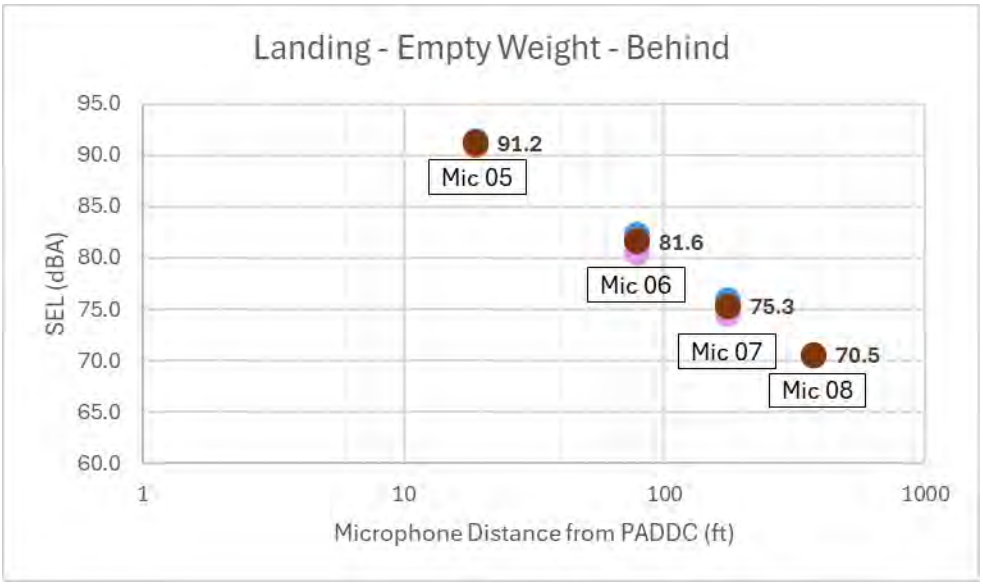


Figure 14. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Lateral

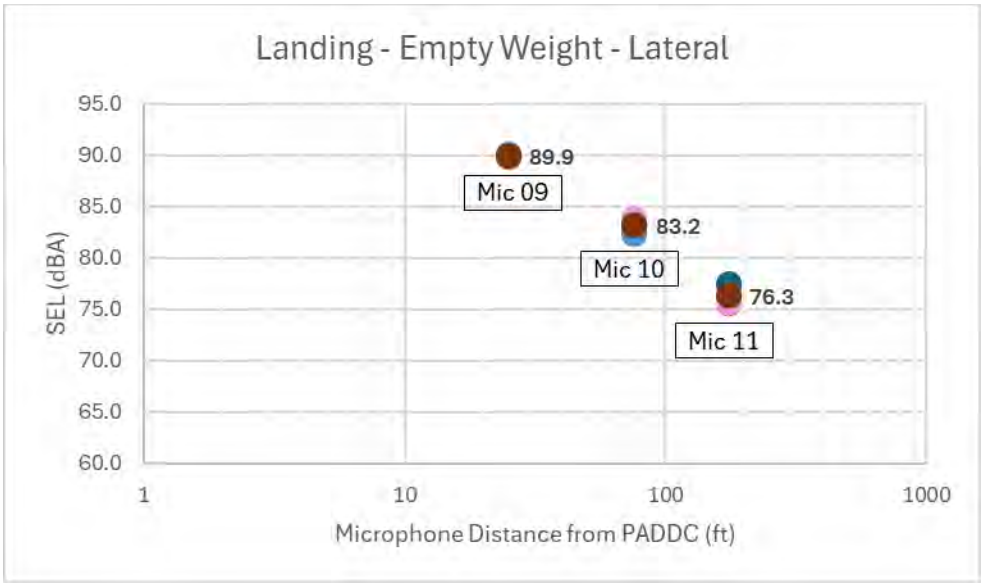


Figure 15. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Undertrack

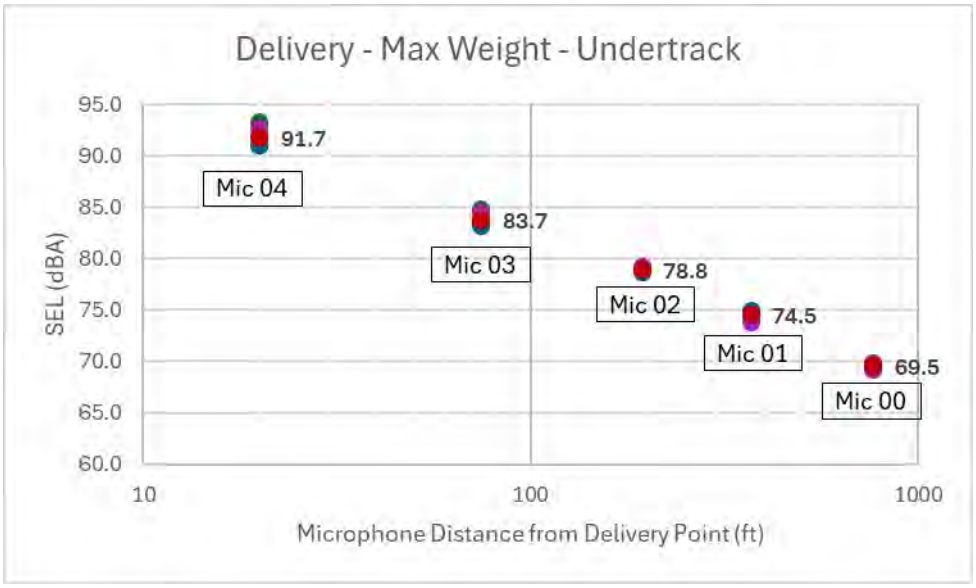


Figure 16. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Behind

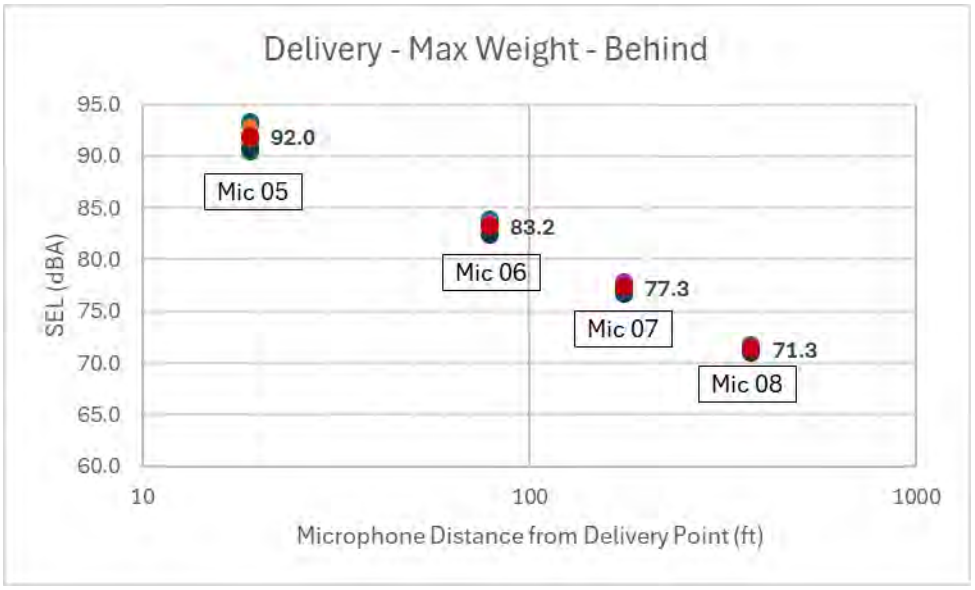
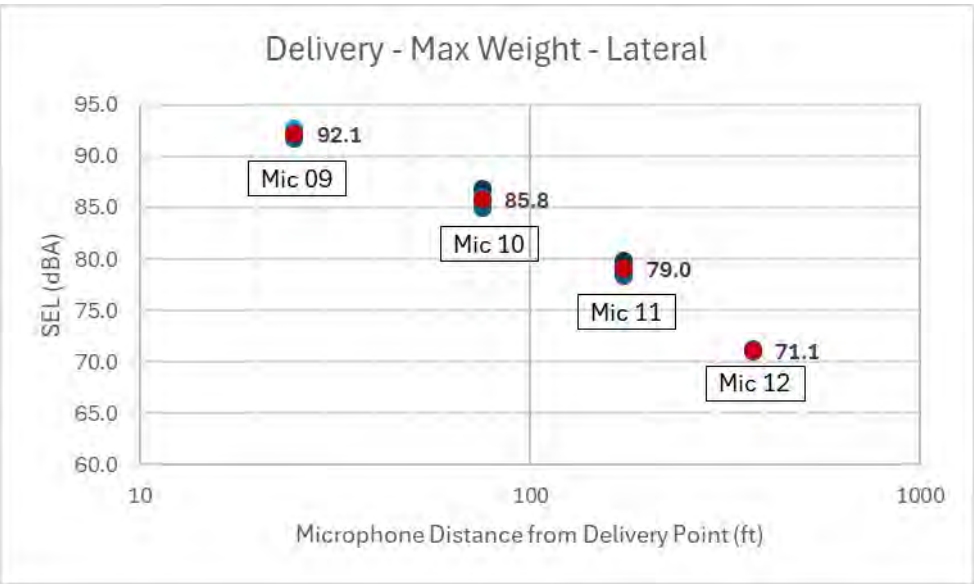


Figure 17. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Lateral



The maximum SEL values from each test outline in **Table 17** were utilized to determine the composite, maximum A-weight SELs for takeoff, delivery, and landings, as shown in **Table 18** through **Table 20**. Additionally, speed- and altitude-corrected en route noise was factored in to calculate the interpolated distances to the PADDCs. **Figure 18** illustrates the noise levels and corresponding distances associated with takeoff, delivery, and landing.

Table 18. Maximum Takeoff A-Weighted SELs

Distance to PADDC (ft)	Max Weight Delivery
	SEL[1]
20	90.5
76	82.1
195	76.5
372	72.4
772	67.0
1,205[2]	63.7[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the altitude and speed corrected max weight enroute measurement.

Table 19. Maximum A-Weighted SELs - Delivery

Distance to PADDC (ft)	Max Weight Delivery
	SEL[1]
25	92.1
76	85.8
175	79.0
372	74.5
772	69.5
1,820[2]	63.7[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the altitude and speed corrected max weight enroute measurement.

Table 20. Maximum A-Weighted SELs - Landing

Distance to PADDC (ft)	Empty Weight Landing
	SEL[1]
20	91.8
76	83.2
195	76.5
375	70.5
1,074[2]	60.9[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the speed and altitude corrected empty weight enroute measurement.

Figure 18. MK30 Maximum A-Weighted SELs

Using the maximum A-weight SELs from takeoff, delivery, and landing, parameters were determined to estimate SELs as a function of distance from the PADDC launch pad and delivery location. **Table 21** provides parameters to estimate SELs associated with takeoff as a function of distance from the PADDC launch pad to the receiver. **Table 22** provides parameters to estimate the SEL associated with delivery, as a function of distance from the delivery point to the receiver. **Table 23** provides parameters to estimate SELs associated with landing as a function of distance from the PADDC launch pad to the receiver. In these tables, constants "m" and "b" are components of the slope intercept linear equation y = mx +b. Constant "m" represents the slope of the line. Constant "b" represents the point at which the slope crosses the y-axis.

Table 21. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance

Range for Distance (feet from launch pad)	m	b
20 to 76	-14.51	109.30
76 to 195	-13.51	107.46
195 to 372	-14.66	110.09
372 to 772	-17.08	116.32
772 to 1,205	-17.05	116.23
1,205 and greater	0.00	63.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from launch pad to receiver.

Table 22. Parameters for Estimating Sound Exposure Level for Delivery versus Distance

Range for Distance (feet from delivery point)	m	b
25 to 76	-13.18	110.56
76 to 175	-18.65	120.84
175 to 372	-13.86	110.11
372 to 772	-15.63	114.67
772 to 1,820	-15.63	114.65
1,820 and greater	0.00	63.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from delivery point to receiver.

Table 23. Parameters for Estimating Sound Exposure Level for Landing versus Distance

Range for Distance (feet from launch pad)	m	b
20 to 76	-14.95	111.28
76 to 195	-16.17	113.58
195 to 375	-21.10	124.86
375 to 1,074	-21.10	124.87
1,074 and greater	0.00	60.9

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from launch pad to receiver.

Appendix A:
Flight Profile Measurements

Phase of Flight	Minimum Altitude (ft AGL)	Maximum Altitude (ft AGL)	Average Altitude (ft AGL)	Minimum Duration (seconds)	Maximum Duration (seconds)	Average Duration (seconds)	Minimum True Airspeed (knots)	Maximum True Airspeed (knots)	Average True Airspeed (knots)
Takeoff and Vertical Ascent	3.2	137.4	64.9	19	24	20	0.7	9.4	5.5
Transition and Outbound Climb	132.1	201.2	160.7	58	63	60	0.8	62.4	42.9
Fixed Wing Outbound Cruise	194.7	205.9	200.5	Variable	Variable	Variable	57.6	62.6	59.7
Delivery Descent and Transition	130.6	202.8	158.1	30	36	34	0.6	60.2	36.9
Backyard Descent	17.7	135.8	77.6	18	22	19	1.5	7.7	5.4
Delivery	14.4	23.0	18.5	2	2	2	2.8	7.2	4.5
Backyard Ascent	16.4	138.6	105.8	24	30	29	1.1	8.9	7.1
Transition and Inbound Climb	133.0	203.3	160.9	57	62	60	1.4	62.5	43.0
Fixed-wing Inbound Cruise	194.8	207.8	201.2	Variable	Variable	Variable	66.0	71.0	68.7
Landing Descent and Transition	133.7	201.9	160.3	32	39	36	1.5	70.5	42.7
Vertical Descent and Landing	1.1	134.6	78.3	33	34	34	0.2	6.7	5.1

Source: Prime Air, 2024; ESA, 2025.

Appendix B:
Noise Event Tables

Table B-1. Max Weight Takeoff Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	45.2	50.6	60.1	68.1	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
772	2-1	42.3	48.6	57.2	66.2	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
772	3-1	42.4	48.4	57.8	66.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
772	4-1	42.4	48.4	57.7	66.3	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
772	5-1	47.3	49.7	59.1	67.2	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
772	6-1	44.5	50.4	59.6	67.8	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
772	7-1	46.0	51.6	60.8	69.7	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 00 Average		**44.3**	**49.7**	**58.9**	**67.4**	**200.5**	**59.7**								
Mic 01 (Undertrack)															
372	1-1	45.5	55.3	64.2	72.8	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
372	2-1	43.5	54.0	62.8	71.6	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
372	3-1	43.7	54.4	62.5	72.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
372	4-1	43.6	54.3	63.1	72.1	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
372	5-1	48.3	54.8	64.1	72.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
372	6-1	45.7	55.3	64.1	72.7	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
372	7-1	45.9	54.9	64.4	73.0	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 01 Average		**45.2**	**54.7**	**63.6**	**72.4**	**200.5**	**59.7**								
Mic 02 (Undertrack)															
195	1-1	44.2	59.0	65.2	76.5	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
195	2-1	42.0	58.7	65.0	76.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
195	3-1	42.0	59.2	65.6	77.2	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
195	4-1	42.3	58.5	63.9	76.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
195	5-1	47.8	58.8	64.1	76.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
195	6-1	45.4	59.1	64.4	76.5	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
195	7-1	44.4	58.4	65.0	76.5	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 02 Average		**44.0**	**58.8**	**64.7**	**76.5**	**200.5**	**59.7**								
Mic 03 (Undertrack)															
75	1-1	43.9	63.7	71.1	81.2	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
75	2-1	42.3	63.6	69.1	81.2	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
75	3-1	41.7	64.6	70.3	82.6	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
75	4-1	43.1	64.3	70.5	82.1	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
75	5-1	48.2	63.6	71.6	81.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
75	6-1	45.3	63.9	71.0	81.3	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
75	7-1	44.3	63.3	70.6	81.3	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 03 Average		**44.1**	**63.8**	**70.6**	**81.6**	**200.5**	**59.7**								
Mic 04 (Undertrack)															
20	1-1	48.0	72.6	82.1	90.0	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
20	2-1	47.0	72.1	81.0	89.8	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
20	3-1	45.9	74.4	81.9	92.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
20	4-1	47.4	73.3	81.8	91.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
20	5-1	51.3	72.8	82.0	90.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
20	6-1	49.0	71.4	81.9	88.8	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
20	7-1	47.4	72.7	81.7	90.8	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 04 Average		**48.0**	**72.8**	**81.8**	**90.5**	**200.5**	**59.7**								
Mic 05 (Behind)															
19	1-1	48.1	72.2	81.6	89.7	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
19	2-1	47.0	70.9	79.6	88.5	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
19	3-1	46.1	72.3	80.1	90.3	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
19	4-1	50.8	72.0	79.9	89.9	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
19	5-1	50.5	72.7	81.3	90.2	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
19	6-1	49.2	72.3	81.3	89.7	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
19	7-1	47.4	72.3	80.8	90.3	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 05 Average		**48.1**	**72.1**	**80.8**	**89.8**	**200.2**	**59.7**								
Mic 06 (Behind)															
79	1-1	44.7	62.5	70.7	80.0	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
79	2-1	43.4	61.7	68.8	79.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
79	3-1	42.7	61.9	69.1	79.9	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
79	4-1	43.3	62.2	69.4	80.0	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
79	5-1	48.6	62.9	70.5	80.4	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
79	6-1	46.0	62.6	70.2	80.0	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
79	7-1	45.0	62.4	70.4	80.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 06 Average		**44.8**	**62.3**	**69.9**	**80.0**	**200.5**	**59.7**								
Mic 07 (Behind)															
176	1-1	43.5	55.9	61.4	73.4	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
176	2-1	41.7	55.2	61.1	72.8	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
176	3-1	41.2	55.0	60.3	73.0	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
176	4-1	45.0	55.6	60.6	73.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
176	5-1	48.1	56.7	62.5	74.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
176	6-1	44.5	56.5	61.4	73.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
176	7-1	43.9	55.8	62.5	73.9	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 07 Average		**44.0**	**55.8**	**61.4**	**73.5**	**200.5**	**59.7**								
Mic 08 (Behind)															
375	1-1	45.0	49.7	53.5	67.1	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	No
375	2-1	43.7	49.1	53.5	66.7	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
375	3-1	45.0	49.9	54.3	67.9	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
375	4-1	44.6	49.9	54.1	67.8	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
375	5-1	51.3	51.5	55.5	69.0	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
375	6-1	47.6	51.5	55.6	68.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	No
375	7-1	50.8	54.3	58.1	72.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 08 (Average)		**44.4**	**49.6**	**54.0**	**67.5**	**200.8**	**59.7**								
Mic 09 (Lateral)															
25	1-1	51.4	70.8	80.1	88.3	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	No
25	2-1	50.6	70.6	78.8	88.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	No
25	3-1	49.8	71.3	79.6	89.3	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	No
25	4-1	51.4	70.4	79.0	88.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
25	5-1	53.5	71.0	79.9	88.5	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
25	6-1	52.8	70.7	79.9	88.1	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
25	7-1	50.4	71.4	80.1	89.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 09 (Average)		**51.6**	**71.0**	**80.0**	**88.8**	**200.2**	**59.7**								
Mic 10 (Lateral)															
76	1-1	46.1	64.4	70.3	81.9	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
76	2-1	44.5	63.8	71.0	81.4	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
76	3-1	43.7	64.5	71.0	82.5	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
76	4-1	44.4	64.4	70.2	82.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
76	5-1	49.6	64.6	70.0	82.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
76	6-1	47.5	64.6	70.7	82.0	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
76	7-1	45.6	64.2	70.9	82.2	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 10 (Average)		**45.9**	**64.4**	**70.6**	**82.1**	**200.5**	**59.7**								
Mic 11 (Lateral)															
175	1-1	44.9	58.1	63.4	75.5	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
175	2-1	43.5	57.4	61.9	75.0	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
175	3-1	43.2	57.4	62.6	75.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
175	4-1	43.5	57.5	62.2	75.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
175	5-1	48.7	58.0	63.1	75.5	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
175	6-1	46.6	58.5	64.4	75.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
175	7-1	45.2	57.5	62.5	75.5	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 11 (Average)		**45.1**	**57.8**	**62.9**	**75.5**	**200.5**	**59.7**								
Mic 12 (Lateral)															
375	1-1	45.1	50.7	55.6	68.2	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	2-1	44.8	50.8	54.5	68.4	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	No
375	3-1	50.0	52.2	55.5	70.2	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	No
375	4-1	45.3	50.6	53.8	68.5	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
375	5-1	48.7	51.2	55.9	68.6	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
375	6-1	47.3	51.7	56.1	69.1	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	No
375	7-1	45.7	50.7	54.4	68.7	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 12 (Average)		**45.1**	**50.7**	**55.6**	**68.2**	**200.3**	**59.7**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-2. Max Weight Delivery Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	45.2	49.6	59.3	70.0	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
772	2-1	42.3	48.9	59.4	69.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
772	3-1	42.4	49.1	57.4	69.2	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
772	4-1	42.4	48.9	57.5	69.1	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
772	5-1	47.3	49.3	59.0	69.5	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
772	6-1	44.5	49.8	60.2	69.8	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
772	7-1	46.0	50.2	60.5	70.4	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	No
Mic 00 Average		**44.0**	**49.3**	**58.8**	**69.5**	**94.6**	**6.0**								
Mic 01 (Undertrack)															
372	1-1	45.5	54.3	64.0	74.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
372	2-1	43.5	53.5	62.2	74.3	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
372	3-1	43.7	54.4	62.8	74.5	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
372	4-1	43.6	53.6	62.3	73.8	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
372	5-1	48.3	54.4	63.7	74.5	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
372	6-1	45.7	54.7	64.2	74.7	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
372	7-1	45.9	54.8	64.9	74.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 01 Average		**45.2**	**54.2**	**63.4**	**74.5**	**94.6**	**6.1**								
Mic 02 (Undertrack)															
195	1-1	44.2	58.4	64.9	78.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
195	2-1	42.0	57.9	64.9	78.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
195	3-1	42.0	58.9	64.6	79.1	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
195	4-1	42.3	58.9	64.6	79.1	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
195	5-1	47.8	58.7	65.0	78.8	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
195	6-1	45.4	58.8	65.0	78.8	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
195	7-1	44.4	58.5	64.7	78.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 02 Average		**44.0**	**58.6**	**64.8**	**78.8**	**94.6**	**6.1**								
Mic 03 (Undertrack)															
75	1-1	43.9	63.2	69.1	83.5	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
75	2-1	42.3	62.5	67.9	83.3	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
75	3-1	41.7	64.6	71.5	84.8	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
75	4-1	43.1	64.2	69.5	84.4	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
75	5-1	48.2	63.5	68.6	83.6	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
75	6-1	45.3	63.2	68.5	83.2	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
75	7-1	44.3	62.9	68.8	83.0	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 03 Average		**44.1**	**63.4**	**69.1**	**83.7**	**94.6**	**6.1**								
Mic 04 (Undertrack)															

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
20	1-1	48.0	71.1	82.9	91.4	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
20	2-1	47.0	71.0	80.8	91.8	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
20	3-1	45.9	73.1	83.7	93.3	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
20	4-1	47.4	72.4	83.8	92.6	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
20	5-1	51.3	70.8	81.8	90.9	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
20	6-1	49.0	71.0	82.0	91.0	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
20	7-1	47.4	70.8	81.9	90.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 04 Average		**48.0**	**71.5**	**82.4**	**91.7**	**94.6**	**6.1**								
Mic 05 (Behind)															
19	1-1	48.1	72.7	84.1	93.0	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
19	2-1	47.0	69.6	80.7	90.4	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
19	3-1	46.1	71.5	81.7	91.6	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
19	4-1	50.8	70.6	81.5	90.8	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
19	5-1	50.5	71.6	81.4	91.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
19	6-1	49.2	73.3	84.2	93.3	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
19	7-1	47.4	72.7	84.0	92.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 05 Average		**48.5**	**71.7**	**82.5**	**92.0**	**94.6**	**6.1**								
Mic 06 (Behind)															
79	1-1	44.7	63.6	70.4	83.9	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
79	2-1	43.4	62.2	68.8	83.0	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
79	3-1	42.7	63.1	68.9	83.2	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
79	4-1	43.3	62.1	67.8	82.3	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
79	5-1	48.6	63.0	68.4	83.2	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
79	6-1	46.0	63.4	69.1	83.4	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
79	7-1	45.0	63.5	69.8	83.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 06 Average		**44.8**	**63.0**	**69.0**	**83.2**	**94.6**	**6.1**								
Mic 07 (Behind)															
176	1-1	43.5	57.3	62.5	77.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
176	2-1	41.7	56.9	61.1	77.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
176	3-1	41.2	57.6	62.0	77.7	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
176	4-1	45.0	56.5	62.2	76.7	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
176	5-1	48.1	57.0	61.1	77.1	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
176	6-1	44.5	57.1	62.0	77.1	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
176	7-1	43.9	57.1	62.8	77.3	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 07 Average		**44.0**	**57.1**	**61.9**	**77.3**	**94.6**	**6.1**								
Mic 08 (Behind)															
375	1-1	45.0	50.9	56.9	71.2	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
375	2-1	43.7	50.8	55.3	71.6	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
375	3-1	45.0	51.4	54.4	71.5	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	4-1	44.6	50.7	55.0	70.9	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
375	5-1	51.3	51.1	56.1	71.3	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
375	6-1	47.6	51.6	56.0	71.6	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	No
375	7-1	50.8	51.7	55.1	71.8	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	No
Mic 08 Average		**44.6**	**51.0**	**55.4**	**71.3**	**97.0**	**6.0**								
Mic 09 (Lateral)															
25	1-1	51.4	71.5	83.1	91.8	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	No
25	2-1	50.6	71.1	82.4	91.9	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	No
25	3-1	49.8	70.8	82.3	90.9	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	No
25	4-1	51.4	72.7	83.9	92.9	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	No
25	5-1	53.5	73.5	84.4	93.6	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
25	6-1	52.8	72.7	83.2	92.7	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
25	7-1	50.4	71.4	82.4	91.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 09 Average		**51.6**	**72.1**	**82.8**	**92.1**	**92.0**	**6.7**								
Mic 10 (Lateral)															
76	1-1	46.1	65.1	71.0	85.4	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
76	2-1	44.5	65.1	71.1	86.0	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
76	3-1	43.7	64.9	71.2	85.0	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
76	4-1	44.4	66.3	71.7	86.4	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
76	5-1	49.6	66.6	72.6	86.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
76	6-1	47.5	65.9	70.9	85.9	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
76	7-1	45.6	64.8	70.4	85.0	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 10 Average		**45.9**	**65.5**	**71.3**	**85.8**	**94.6**	**6.1**								
Mic 11 (Lateral)															
175	1-1	44.9	58.5	63.9	78.8	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
175	2-1	43.5	58.4	64.1	79.2	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
175	3-1	43.2	58.2	63.2	78.4	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
175	4-1	43.5	59.3	63.4	79.5	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
175	5-1	48.7	59.7	65.2	79.8	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
175	6-1	46.6	59.0	63.2	79.0	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
175	7-1	45.2	58.2	62.8	78.4	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 11 Average		**45.1**	**58.8**	**63.7**	**79.0**	**94.6**	**6.1**								
Mic 12 (Lateral)															
375	1-1	45.1	50.9	55.7	71.2	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
375	2-1	44.8	53.3	58.9	74.1	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	No
375	3-1	50.0	53.6	57.6	73.7	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	No
375	4-1	45.3	52.0	57.1	72.2	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	No
375	5-1	48.7	51.6	57.3	71.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
375	6-1	47.3	52.1	56.0	72.1	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	No

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	7-1	45.7	50.8	55.5	70.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 12 Average		**45.4**	**50.8**	**55.6**	**71.1**	**95.6**	**6.6**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-3. Empty Weight Landing Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	42.4	48.3	55.7	66.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
772	2-1	42.3	46.4	51.9	64.2	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
772	3-1	42.3	47.6	55.8	65.8	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
772	4-1	44.3	49.0	55.7	67.2	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
772	5-1	47.6	48.3	53.8	66.2	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
772	6-1	43.3	48.1	55.9	66.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 00 Average		-	-	-	-	-	-								
Mic 01 (Undertrack)															
372	1-1	45.0	53.2	60.4	71.1	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
372	2-1	43.6	52.5	59.3	70.3	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
372	3-1	43.5	52.4	59.8	70.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
372	4-1	44.9	52.9	59.5	71.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
372	5-1	47.9	52.3	58.4	70.2	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
372	6-1	44.4	52.0	60.0	69.9	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 01 Average		**44.3**	**52.6**	**59.9**	**70.4**	**200.7**	**68.7**								
Mic 02 (Undertrack)															
195	1-1	42.0	60.1	63.1	78.0	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
195	2-1	42.1	58.5	62.2	76.3	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
195	3-1	42.0	58.9	62.4	77.1	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
195	4-1	43.5	58.8	62.9	77.0	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
195	5-1	47.0	57.5	62.2	75.3	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
195	6-1	43.5	58.1	63.0	76.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 02 Average		**43.6**	**58.6**	**62.7**	**76.5**	**201.0**	**68.7**								
Mic 03 (Undertrack)															
75	1-1	41.9	66.5	70.7	84.4	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
75	2-1	42.0	64.6	68.7	82.4	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
75	3-1	43.0	65.7	71.2	83.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
75	4-1	43.5	65.7	70.4	83.9	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
75	5-1	46.0	63.1	67.9	81.0	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
75	6-1	43.4	64.5	69.7	82.4	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 03 Average		**43.4**	**64.9**	**69.5**	**82.8**	**201.0**	**68.7**								
Mic 04 (Undertrack)															
20	1-1	46.1	75.4	83.1	93.3	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
20	2-1	46.1	72.7	80.6	90.5	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
20	3-1	45.7	75.0	83.5	93.2	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
20	4-1	46.5	75.6	84.1	93.8	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
20	5-1	49.0	72.8	81.0	90.7	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
20	6-1	46.7	73.0	80.3	90.9	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 04 Average		**46.9**	**73.9**	**81.8**	**91.8**	**201.0**	**68.7**								
Mic 05 (Behind)															
19	1-1	52.0	72.6	80.1	90.6	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
19	2-1	46.5	73.2	81.3	91.0	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
19	3-1	45.8	72.3	79.9	90.5	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
19	4-1	51.9	77.4	91.2	95.6	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
19	5-1	49.3	73.5	81.5	91.4	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
19	6-1	59.4	72.4	81.7	90.3	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 05 Average		**47.9**	**73.4**	**81.4**	**91.2**	**201.0**	**68.7**								
Mic 06 (Behind)															
79	1-1	42.8	63.8	67.8	81.7	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
79	2-1	43.0	64.2	68.0	82.0	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
79	3-1	42.7	63.7	69.2	81.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
79	4-1	43.7	63.3	68.2	81.5	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
79	5-1	47.2	64.4	68.8	82.3	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
79	6-1	44.0	62.5	66.8	80.5	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 06 Average		**44.1**	**63.6**	**67.9**	**81.6**	**201.0**	**68.7**								
Mic 07 (Behind)															
176	1-1	41.2	57.5	61.6	75.5	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
176	2-1	43.4	57.6	61.4	75.4	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
176	3-1	41.4	57.4	62.0	75.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
176	4-1	43.8	56.9	60.1	75.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
176	5-1	46.8	58.0	62.4	75.8	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
176	6-1	43.2	56.6	60.9	74.5	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 07 Average		**43.7**	**57.3**	**61.3**	**75.3**	**201.0**	**68.7**								
Mic 08 (Behind)															
375	1-1	43.6	50.4	53.6	68.3	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
375	2-1	44.7	52.8	57.4	70.5	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
375	3-1	46.7	55.7	57.4	73.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
375	4-1	46.7	65.6	80.6	83.8	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
375	5-1	52.1	51.2	53.9	69.0	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
375	6-1	48.6	69.8	84.7	87.7	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 08 Average		**44.7**	**52.8**	**57.4**	**70.5**	**200.6**	**68.7**								
Mic 09 (Lateral)															
25	1-1	48.3	72.2	80.6	90.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
25	2-1	50.1	72.0	79.7	89.8	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
25	3-1	49.7	72.4	80.8	90.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
25	4-1	50.1	71.7	81.1	89.9	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
25	5-1	49.8	72.2	80.2	90.1	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
25	6-1	49.7	73.4	81.5	91.4	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 09 Average		**50.0**	**72.0**	**80.4**	**89.9**	**201.2**	**68.7**								
Mic 10 (Lateral)															
76	1-1	43.6	65.3	70.0	83.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
76	2-1	44.8	65.1	69.1	82.9	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
76	3-1	43.8	65.4	69.7	83.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
76	4-1	44.8	65.1	69.2	83.3	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
76	5-1	47.5	64.5	70.0	82.4	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
76	6-1	44.7	65.9	70.8	83.8	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 10 Average		**45.2**	**65.2**	**70.0**	**83.2**	**201.1**	**68.7**								
Mic 11 (Lateral)															
175	1-1	43.2	59.5	63.3	77.4	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
175	2-1	43.4	57.8	62.5	75.6	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
175	3-1	43.2	58.3	61.2	76.4	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
175	4-1	44.8	58.2	61.1	76.4	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
175	5-1	47.5	57.2	60.4	75.1	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
175	6-1	44.2	57.8	61.5	75.8	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 11 Average		**43.9**	**58.3**	**62.1**	**76.3**	**200.9**	**68.7**								
Mic 12 (Lateral)															
375	1-1	44.2	51.1	55.1	69.1	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
375	2-1	47.9	51.9	55.3	69.7	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
375	3-1	58.2	54.2	56.9	72.4	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
375	4-1	45.5	50.9	55.1	69.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
375	5-1	51.3	58.8	72.3	76.6	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
375	6-1	44.6	50.1	52.8	68.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 12 Average		**-**	**-**	**-**	**-**	**-**	**-**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-4. Max Weight En Route Measurements

Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 09 (Lateral)																	
25	1-1	17.5	117.1	46.7	56.1	60.3	65.7	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
25	1-2	6.1	117.7	46.7	55.9	60.1	65.4	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
25	2-1	9.5	117.6	45.8	55.7	59.7	65.3	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
25	2-2	33.8	120.4	45.8	56.1	60.1	65.1	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
25	3-1	43.8	122.8	46.3	55.7	59.7	65.3	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
25	3-2	5.5	115.3	46.3	55.9	60.0	65.4	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
25	4-1	24.8	119.7	47.8	56.0	60.4	66.0	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes
25	4-2	13.4	117.6	47.8	55.2	59.5	65.2	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
25	5-1	17.1	118.2	46.9	55.5	59.7	65.5	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
25	5-2	7.9	116.4	46.9	55.9	60.1	65.4	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
25	6-1	16.9	117.3	50.9	57.7	61.8	66.8	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
25	6-2	43.2	120.2	50.9	57.5	61.7	67.5	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 09 Average		20.0	118.4	47.4	56.1	60.3	65.7	122.5	60.8								
Mic 10 (Lateral)																	
76	1-1	54.2	127.8	50.0	57.0	61.3	66.5	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
76	1-2	50.9	128.1	50.0	56.1	60.2	65.7	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
76	2-1	52.6	128.5	49.0	56.2	60.1	65.7	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
76	2-2	60.6	130.5	49.0	56.8	60.7	65.8	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
76	3-1	69.3	134.0	50.2	56.4	60.5	65.9	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
76	3-2	49.6	125.4	50.2	56.2	60.2	65.8	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
76	4-1	57.5	130.5	50.5	56.4	61.2	66.4	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes
76	4-2	52.3	128.1	50.5	55.6	59.7	65.6	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
76	5-1	54.1	128.9	49.9	56.1	60.5	66.1	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
76	5-2	52.7	127.5	49.9	56.7	61.0	66.2	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
76	6-1	51.1	126.8	47.5	57.4	61.6	66.5	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
76	6-2	66.8	130.5	47.5	57.1	61.2	67.1	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 10 Average		56.0	128.9	49.5	56.5	60.7	66.1	122.5	60.8								
Mic 11 (Lateral)																	
175	1-1	152.4	191.4	44.9	53.3	57.1	62.9	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
175	1-2	150.4	190.9	44.9	53.5	57.3	63.0	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
175	2-1	151.7	191.7	43.7	53.3	57.4	62.8	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
175	2-2	154.5	192.9	43.7	53.8	57.4	62.8	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
175	3-1	158.9	196.0	43.4	52.8	56.5	62.4	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
175	3-2	149.1	188.4	43.4	53.4	57.2	62.9	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
175	4-1	154.2	193.6	43.3	53.2	57.6	63.2	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes

Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
175	4-2	151.2	191.1	43.3	51.9	55.7	61.9	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
175	5-1	151.8	191.6	44.3	53.1	57.0	63.1	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
175	5-2	152.0	191.2	44.3	53.0	56.9	62.6	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
175	6-1	148.7	188.6	46.5	54.5	58.3	63.6	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
175	6-2	157.5	193.4	46.5	54.2	57.8	64.2	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 11 Average		152.7	191.7	44.4	53.3	57.2	62.9	122.5	60.8								
Mic 12 (Lateral)																	
375	1-1	351.5	370.1	45.2	48.6	50.0	58.1	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	No
375	1-2	349.8	369.0	45.2	48.8	50.3	58.3	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	No
375	2-1	351.0	370.1	44.2	48.2	49.3	57.7	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	No
375	2-2	352.2	370.6	44.2	49.2	50.5	58.2	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	No
375	3-1	354.8	372.9	44.4	48.2	49.8	57.7	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	No
375	3-2	348.6	367.1	44.4	48.7	49.9	58.3	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	No
375	4-1	352.7	371.6	44.3	48.5	50.1	58.5	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	No
375	4-2	350.5	369.5	44.3	47.8	48.5	57.8	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	No
375	5-1	350.7	369.7	45.2	50.4	51.5	60.4	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	No
375	5-2	351.4	370.0	45.2	52.0	52.9	61.5	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	No
375	6-1	347.6	366.4	49.6	50.2	51.4	59.3	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	No
375	6-2	354.0	371.3	49.6	50.5	51.6	60.5	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	No
Mic 12 Average		351.2	369.9	-	-	-	-	-	-								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-5. Empty Weight En Route Measurements

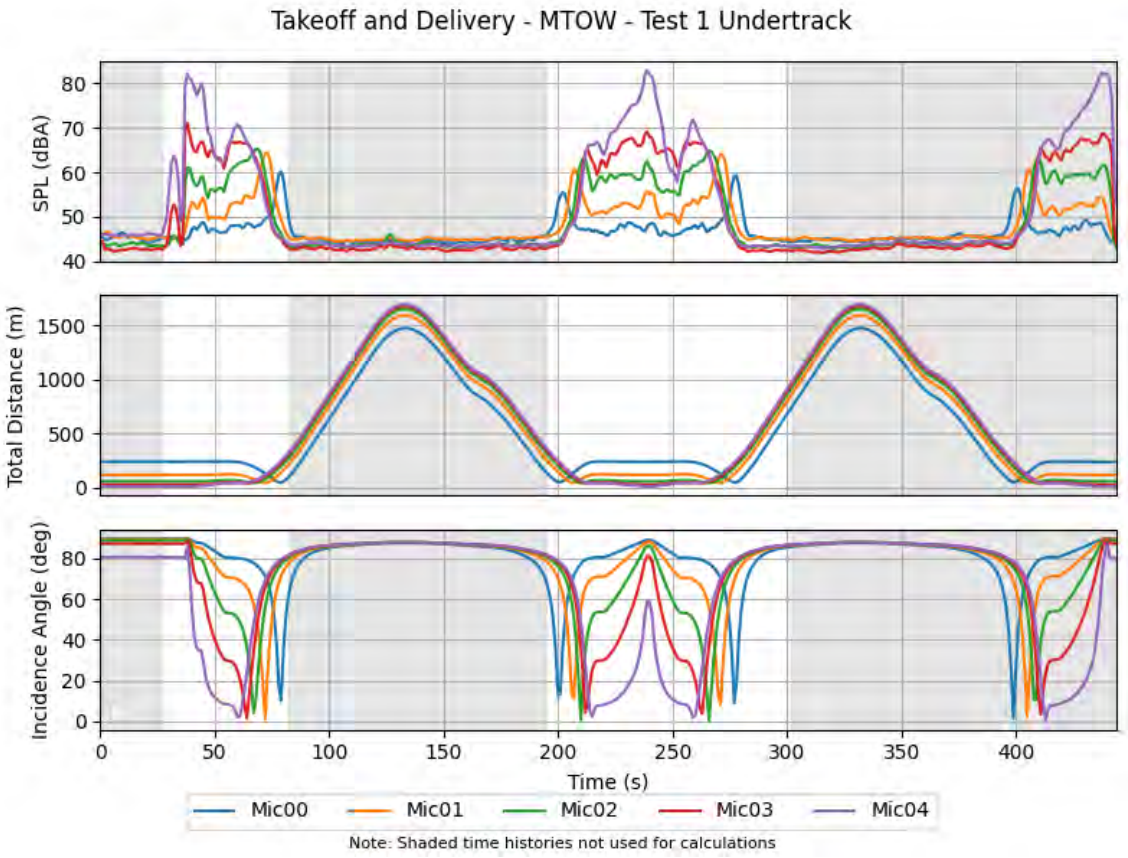
Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 09 (Lateral)																	
25	1-1	0.4	101.8	50.8	57.5	62.1	67.1	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
25	1-2	17.6	103.4	50.8	57.0	61.6	66.6	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
25	2-1	44.8	94.2	50.1	59.3	63.6	68.4	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes
25	2-2	5.7	81.4	50.1	58.6	63.3	68.1	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
25	3-1	36.0	107.7	46.8	56.9	61.2	66.5	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
25	3-2	20.1	103.3	46.8	56.1	60.8	66.1	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
25	4-1	43.9	110.3	62.9	62.9	64.3	73.3	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	No
25	4-2	52.4	112.5	62.9	64.8	65.9	74.3	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
25	5-1	3.6	96.7	47.0	57.5	61.7	66.5	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
25	5-2	8.5	94.9	47.0	57.7	62.7	67.7	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
25	6-1	48.9	110.8	47.6	55.6	60.5	66.8	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	Yes
25	6-2	9.2	100.6	47.6	55.2	60.1	65.6	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	Yes
25	7-1	22.4	104.3	50.7	57.1	61.5	67.1	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
25	7-2	23.1	105.2	50.7	56.9	61.3	66.4	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 09 Average		18.4	99.3	49.2	57.2	61.8	67.0	103.1	60.7								
Mic 10 (Lateral)																	
76	1-1	50.7	113.7	44.9	56.6	61.1	66.1	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
76	1-2	54.7	115.6	44.9	56.1	60.8	65.6	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
76	2-1	69.0	107.9	44.5	58.3	62.6	67.3	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes
76	2-2	51.4	96.1	44.5	57.6	62.4	67.2	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
76	3-1	63.0	119.5	51.1	58.0	62.3	67.6	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
76	3-2	56.0	115.8	51.1	56.9	61.2	66.9	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
76	4-1	66.9	121.3	49.1	56.4	60.9	66.8	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	Yes
76	4-2	72.9	123.5	49.1	58.0	62.4	67.5	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
76	5-1	50.5	109.1	50.6	58.6	62.5	67.6	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
76	5-2	52.4	108.1	50.6	58.6	63.5	68.6	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
76	6-1	70.0	122.6	51.7	56.9	61.6	68.1	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	Yes
76	6-2	53.1	113.4	51.7	56.2	60.7	66.7	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	No
76	7-1	56.8	116.6	45.3	56.2	60.7	66.2	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
76	7-2	55.9	116.8	45.3	56.0	60.7	65.6	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 10 Average		57.8	112.8	47.1	57.1	61.7	66.9	103.0	60.6								
Mic 11 (Lateral)																	
175	1-1	150.5	181.7	44.5	53.3	57.1	62.8	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
175	1-2	152.3	183.2	44.5	52.6	56.7	62.2	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
175	2-1	158.0	178.4	43.8	54.4	57.9	63.5	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes

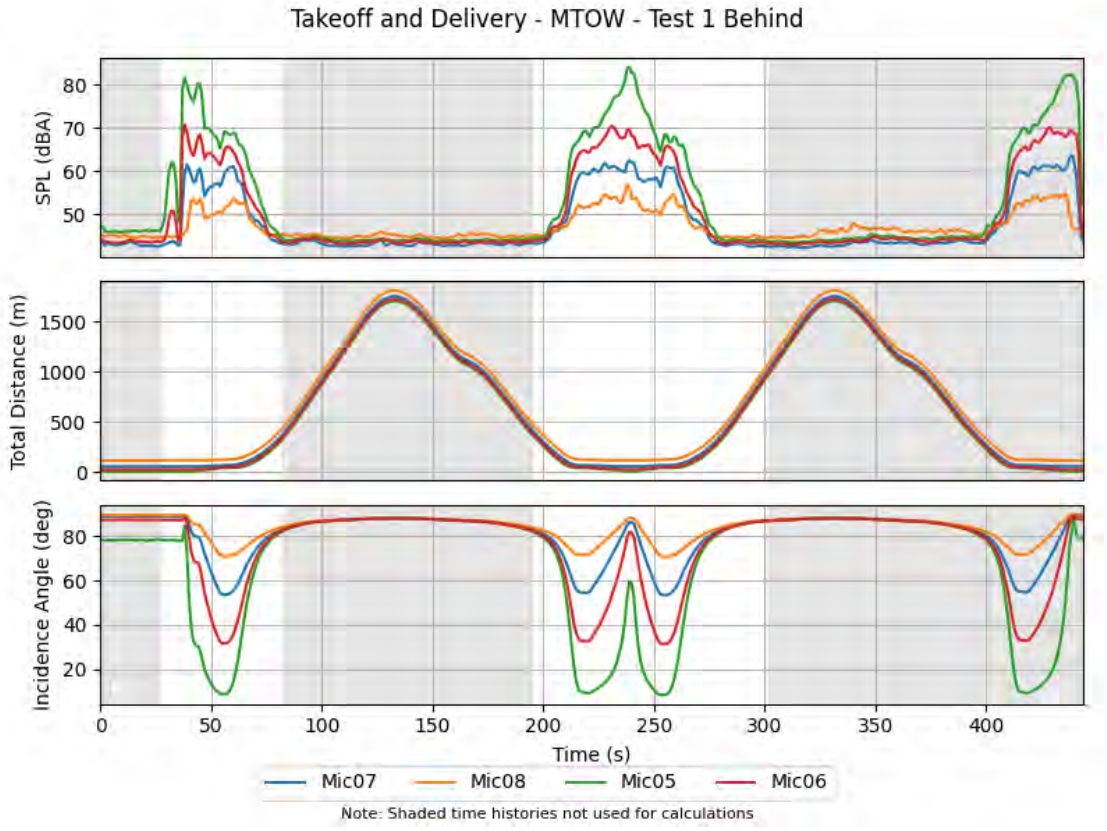
Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
175	2-2	150.9	171.3	43.8	53.6	57.3	63.2	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
175	3-1	155.1	185.4	44.9	53.7	57.4	63.3	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
175	3-2	153.7	184.1	44.9	53.0	56.8	63.0	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
175	4-1	155.6	185.7	43.0	52.5	56.6	62.9	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	Yes
175	4-2	159.4	188.0	43.0	53.8	57.9	63.3	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
175	5-1	150.3	178.7	45.7	54.0	57.7	63.1	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
175	5-2	151.6	178.6	45.7	54.0	58.3	64.0	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
175	6-1	158.5	187.6	45.2	53.5	57.5	64.7	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	No
175	6-2	152.5	182.5	45.2	51.8	55.7	62.2	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	Yes
175	7-1	153.2	184.0	44.7	53.0	56.7	63.0	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
175	7-2	152.9	184.1	44.7	52.6	56.6	62.2	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 11 Average		152.8	180.8	44.6	53.2	57.1	62.9	103.2	60.8								
Mic 12 (Lateral)																	
375	1-1	350.1	364.5	45.5	48.7	49.9	58.2	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	No
375	1-2	351.1	365.6	45.5	48.4	49.4	57.9	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	No
375	2-1	353.6	363.2	45.7	49.7	51.1	58.7	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	No
375	2-2	350.3	359.6	45.7	49.5	50.7	59.0	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	No
375	3-1	352.0	366.4	46.7	49.1	50.2	58.7	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
375	3-2	352.7	366.9	46.7	50.4	51.8	60.4	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
375	4-1	351.3	365.6	44.6	49.2	50.2	59.7	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	No
375	4-2	354.0	367.8	44.6	49.6	51.1	59.2	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
375	5-1	349.8	362.9	49.7	49.2	50.4	58.2	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	No
375	5-2	350.9	363.4	49.7	55.9	56.7	65.9	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	No
375	6-1	354.1	367.7	49.1	51.0	52.4	62.1	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	No
375	6-2	352.0	366.0	49.1	48.7	49.5	59.2	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	No
375	7-1	351.7	366.1	45.2	49.5	50.5	59.5	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	No
375	7-2	351.6	366.2	45.2	48.3	49.5	57.9	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	No
Mic 12 Average		-	-	-	-	-	-	-	-								

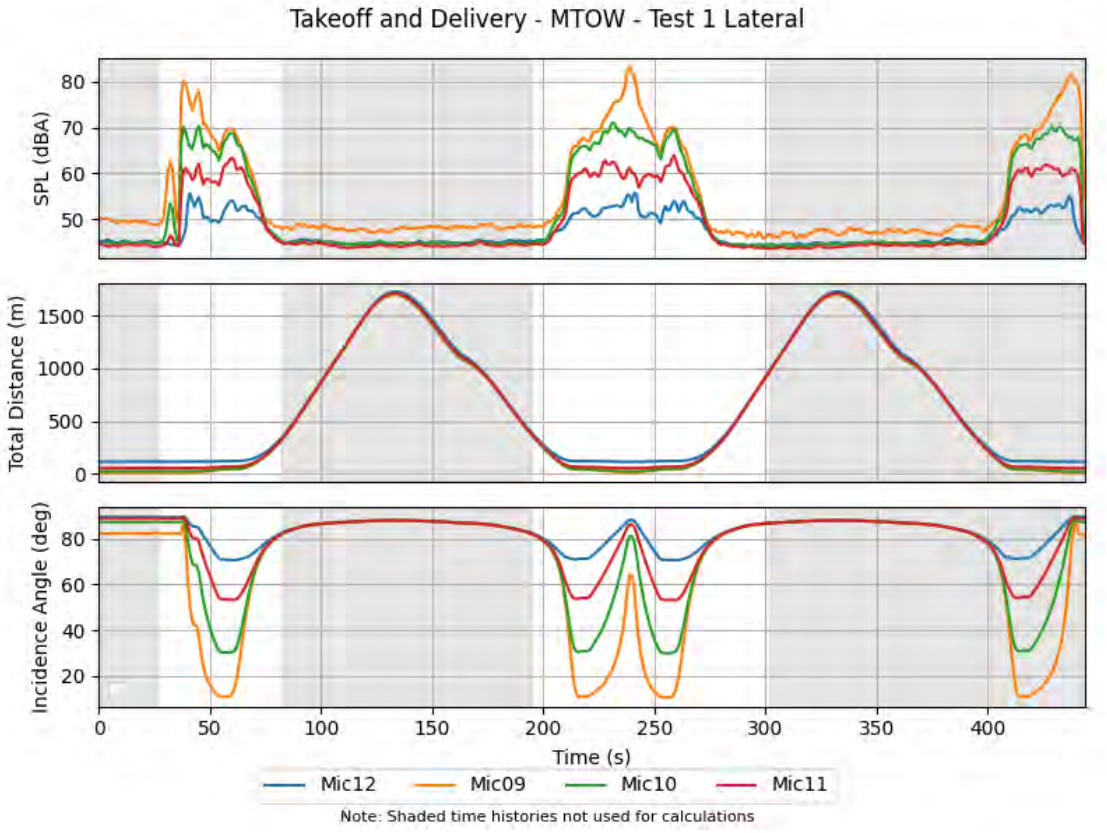
Source: Prime Air, 2024; ESA, 2025.

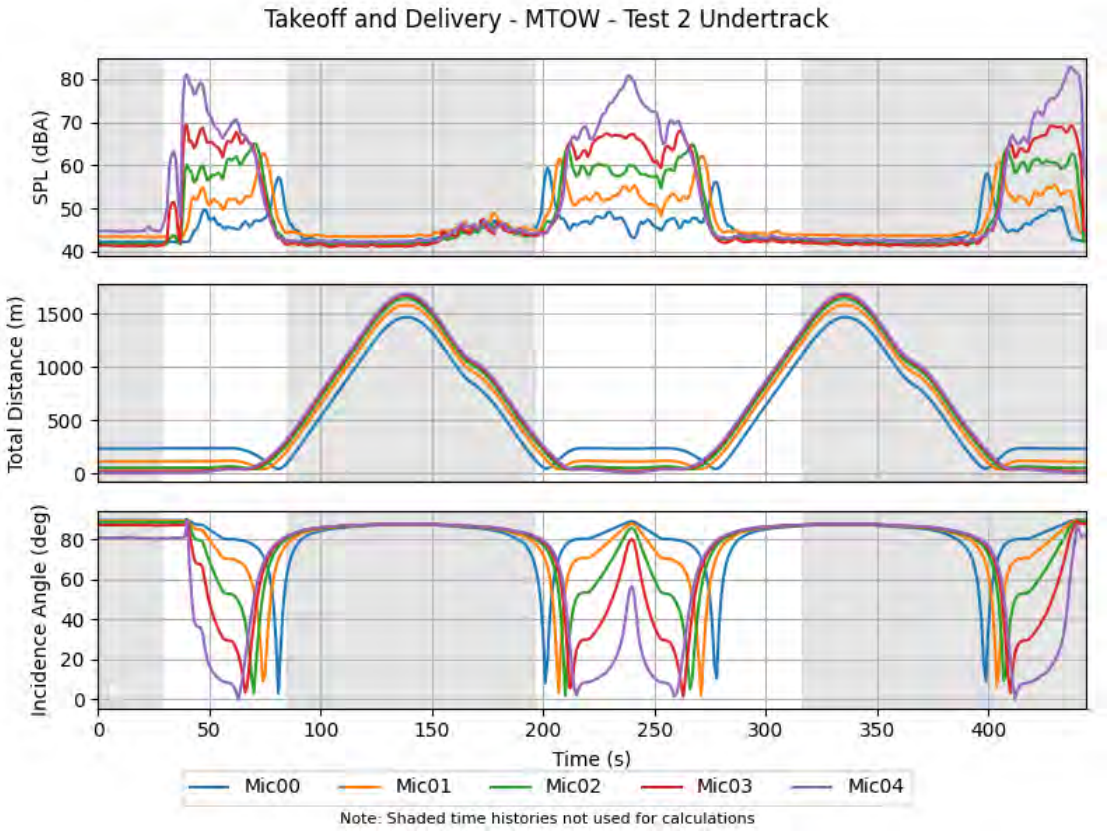
Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

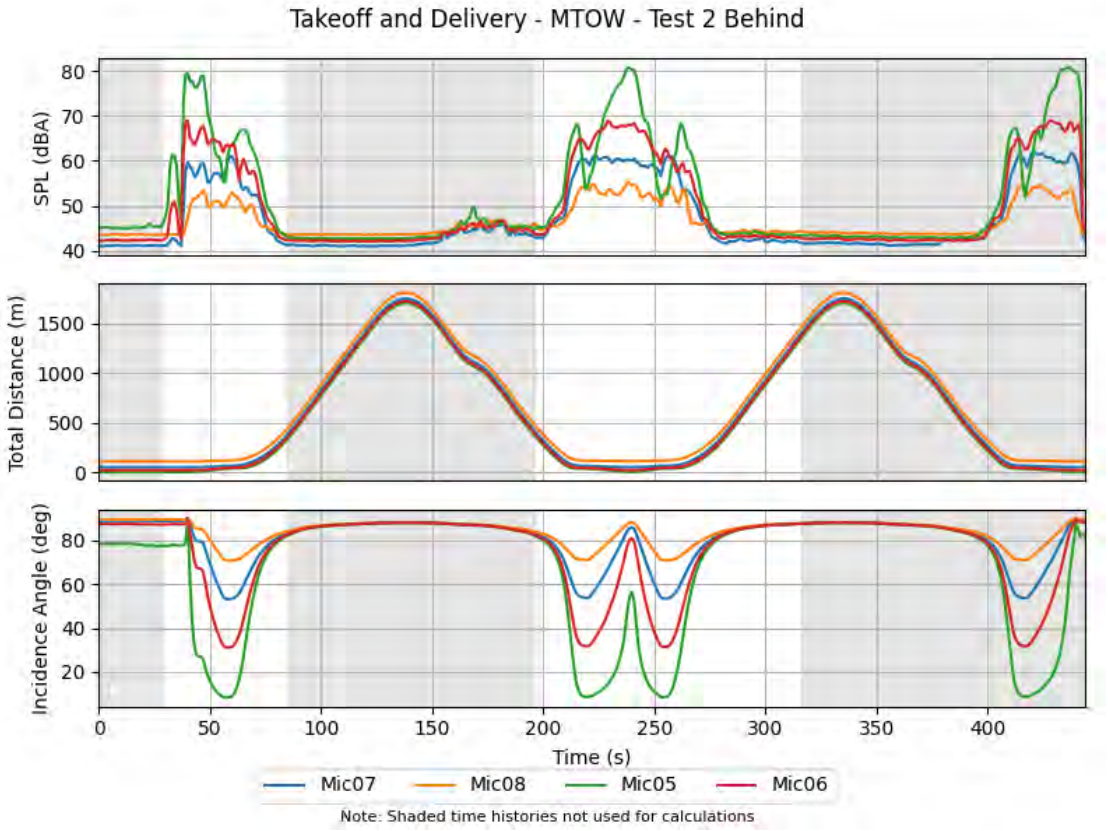
Appendix C:
Time History Graphs

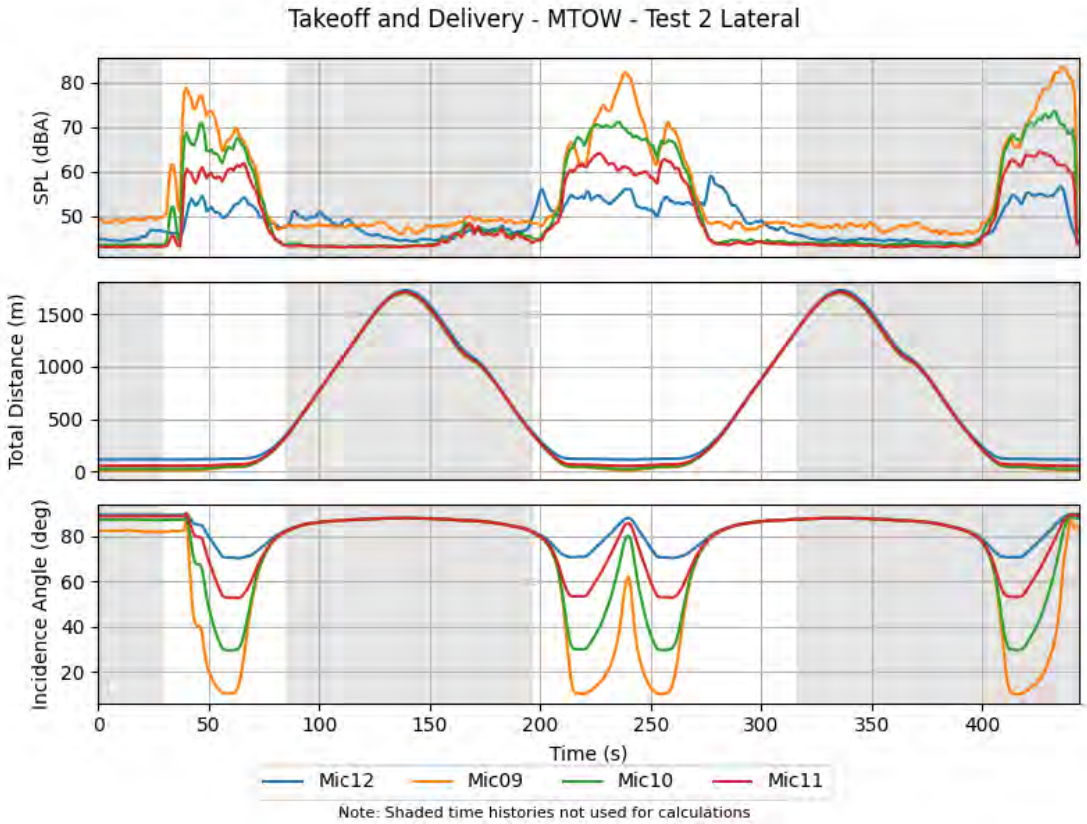


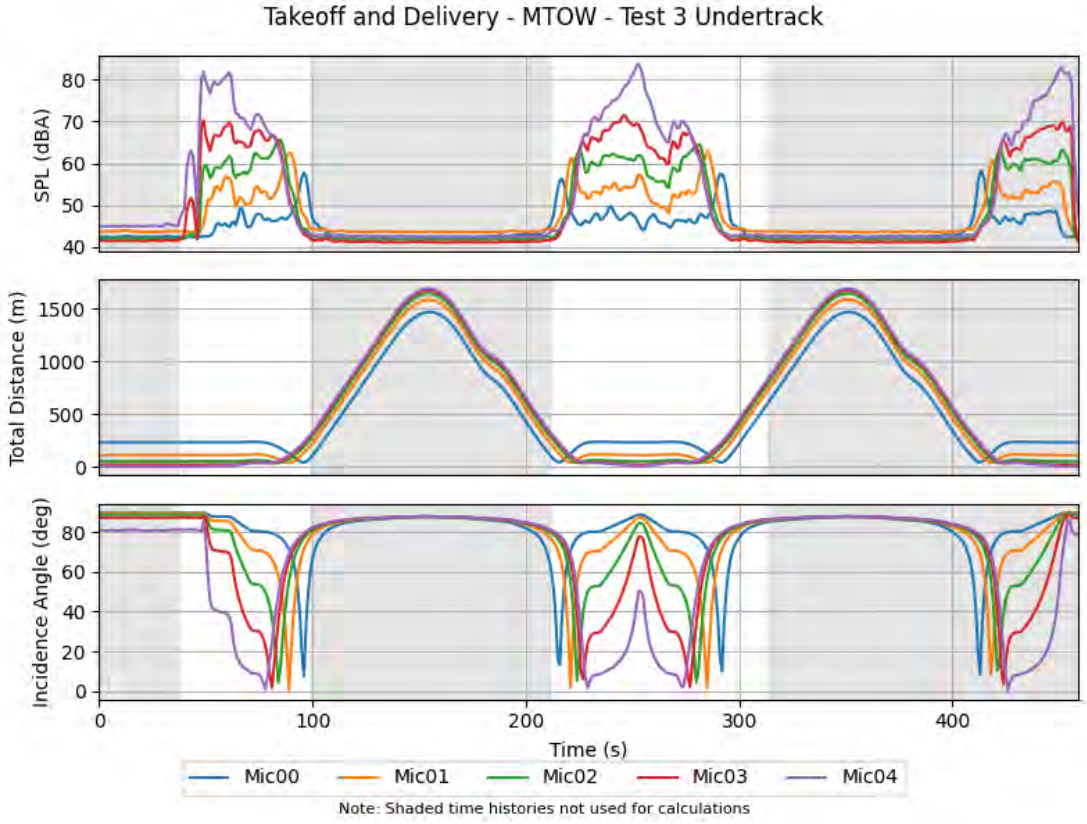

Takeoff and Delivery - MTOW - Test 1 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

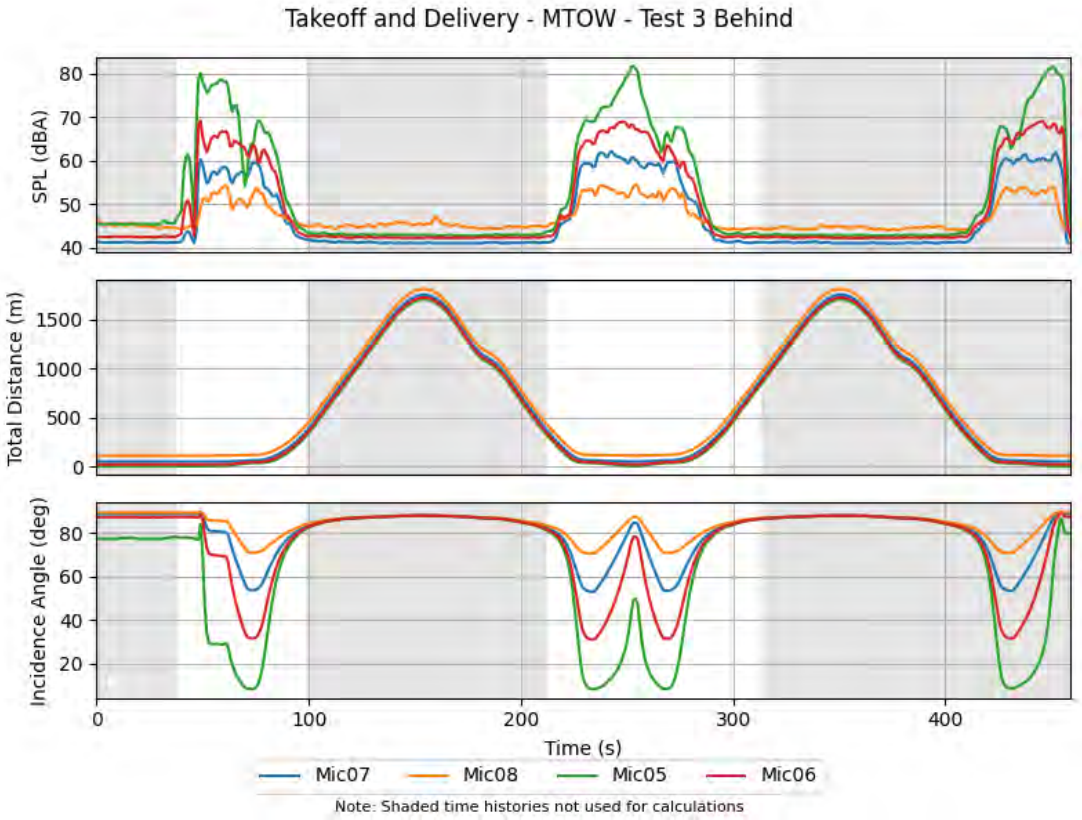

Takeoff and Delivery - MTOW - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

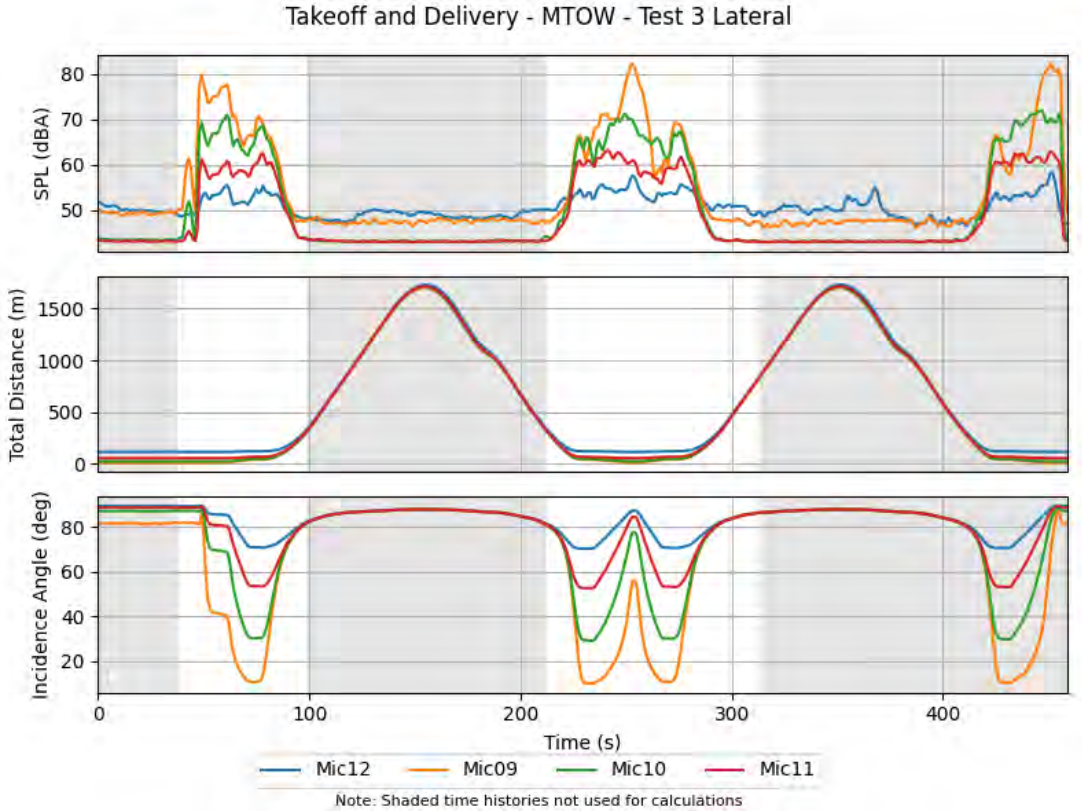

Takeoff and Delivery - MTOW - Test 2 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

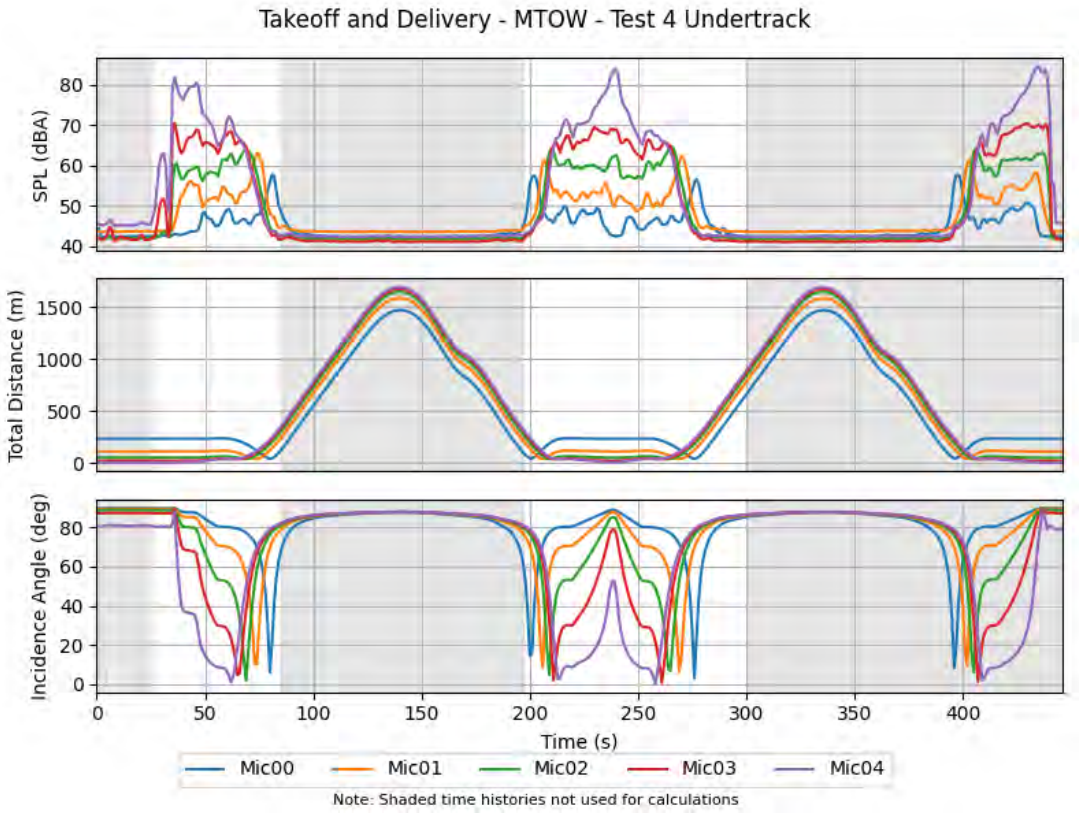

Takeoff and Delivery - MTOW - Test 2 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

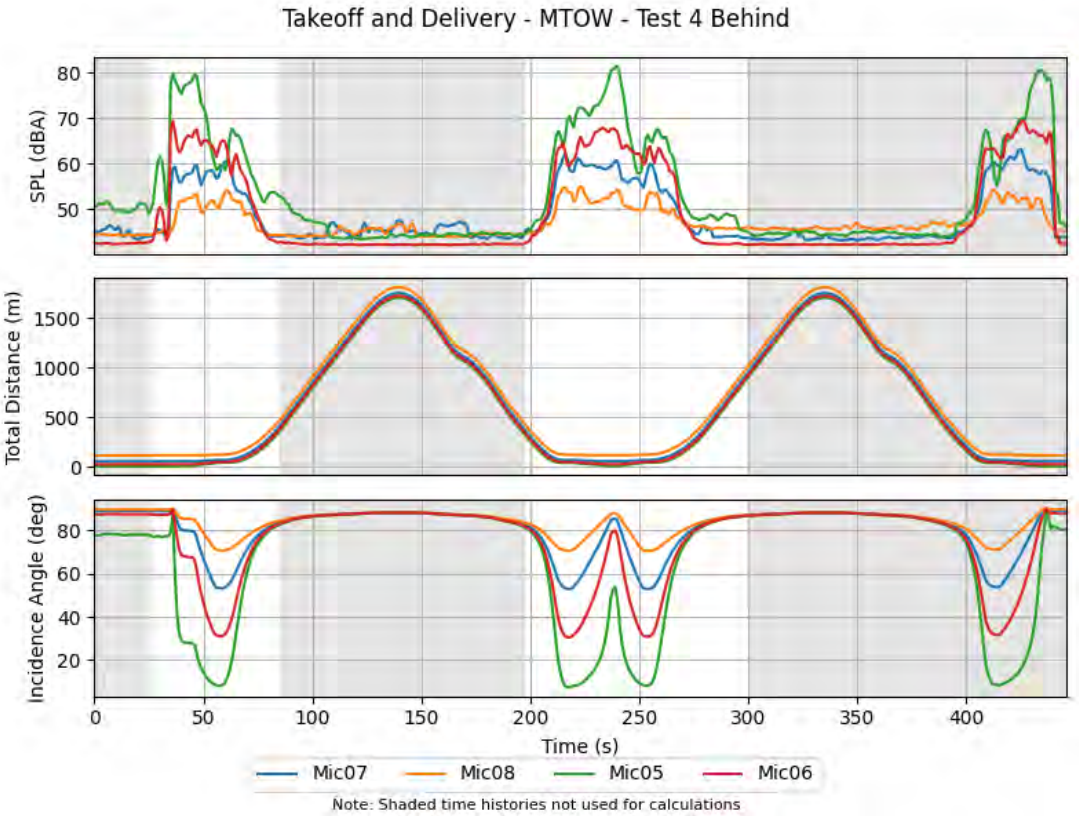

Takeoff and Delivery - MTOW - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

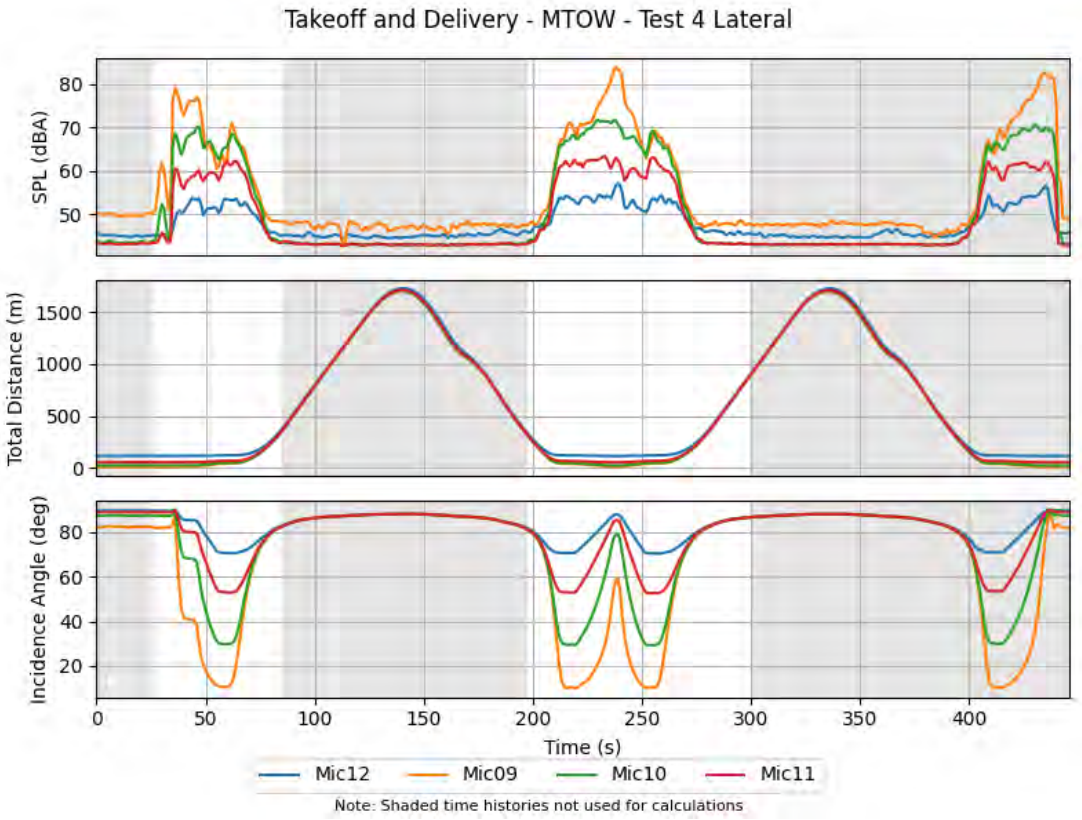

Takeoff and Delivery - MTOW - Test 3 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

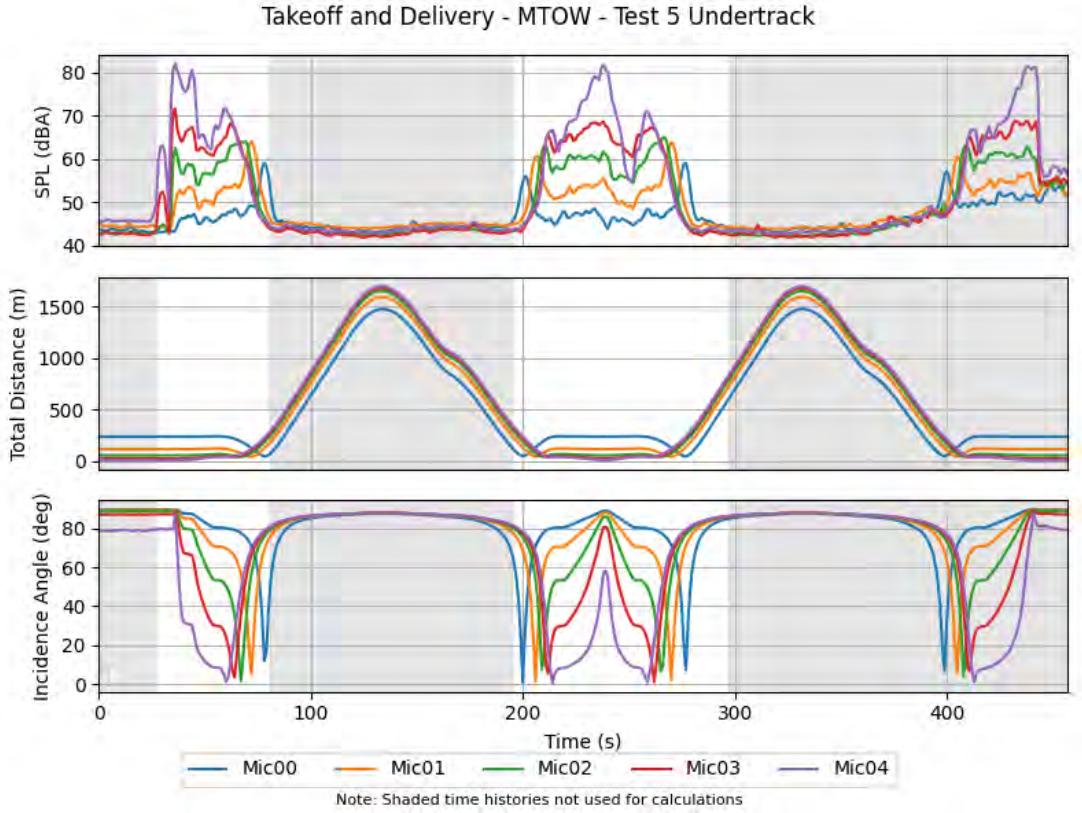

Takeoff and Delivery - MTOW - Test 3 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

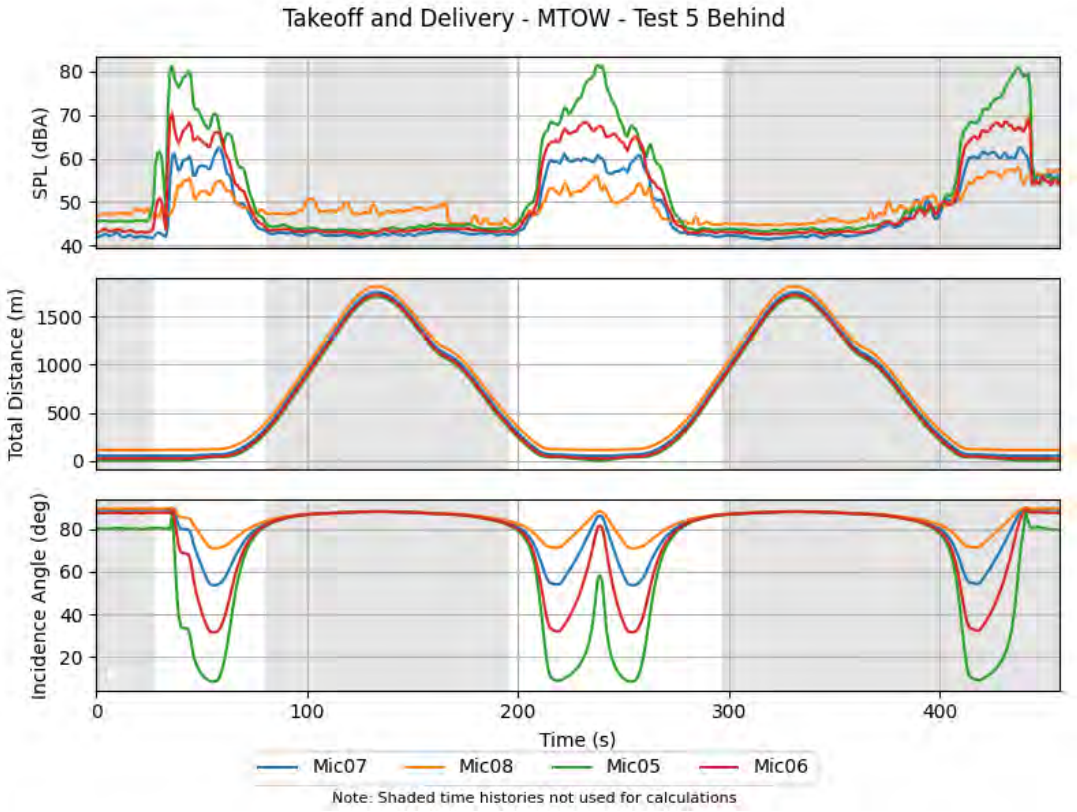

Takeoff and Delivery - MTOW - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

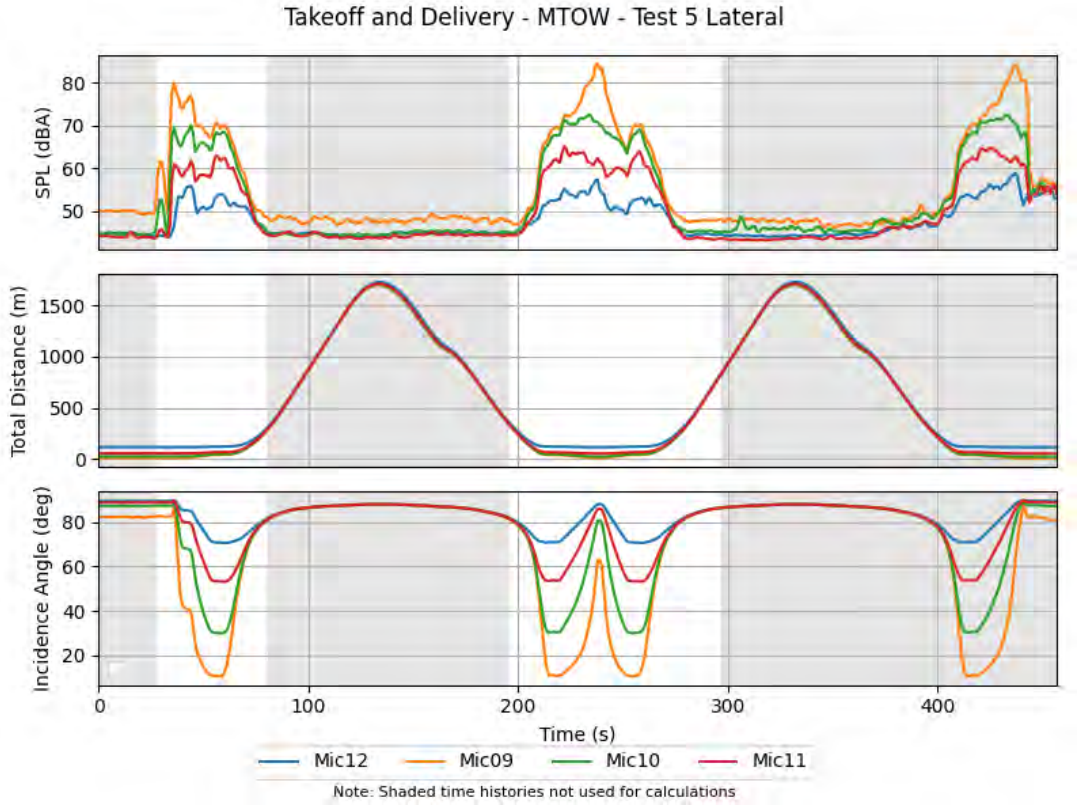

Takeoff and Delivery - MTOW - Test 4 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

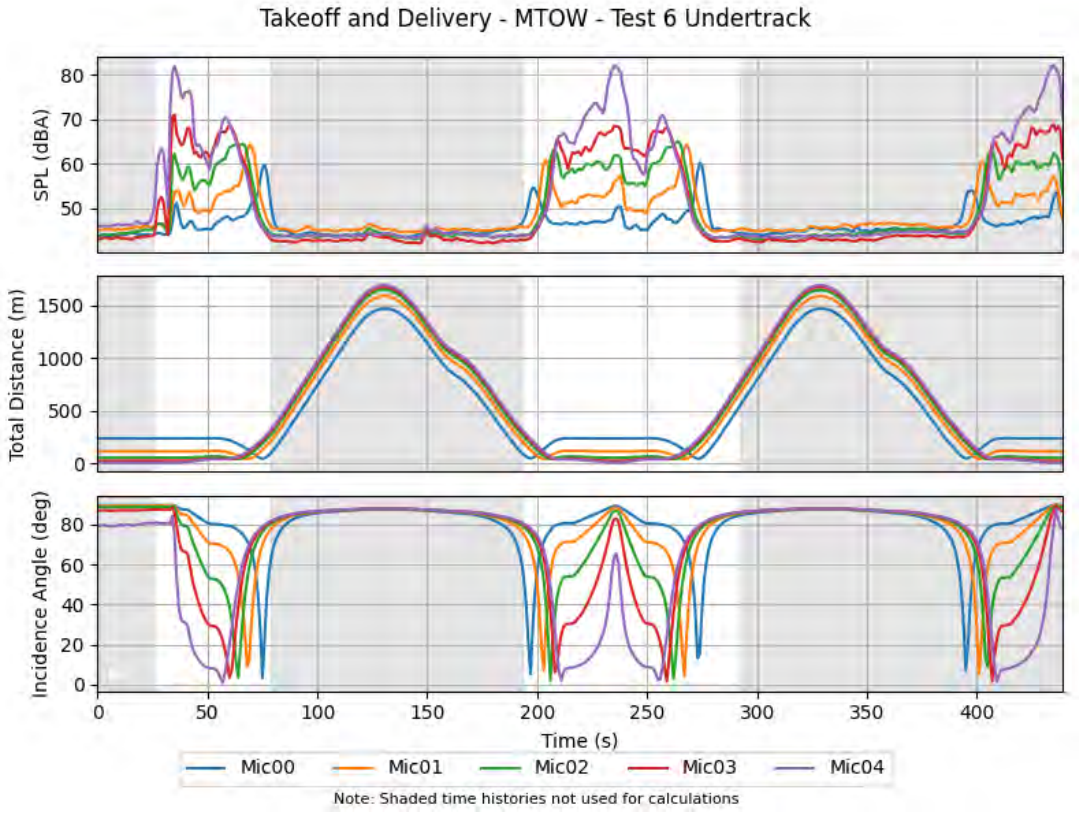

Takeoff and Delivery - MTOW - Test 4 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

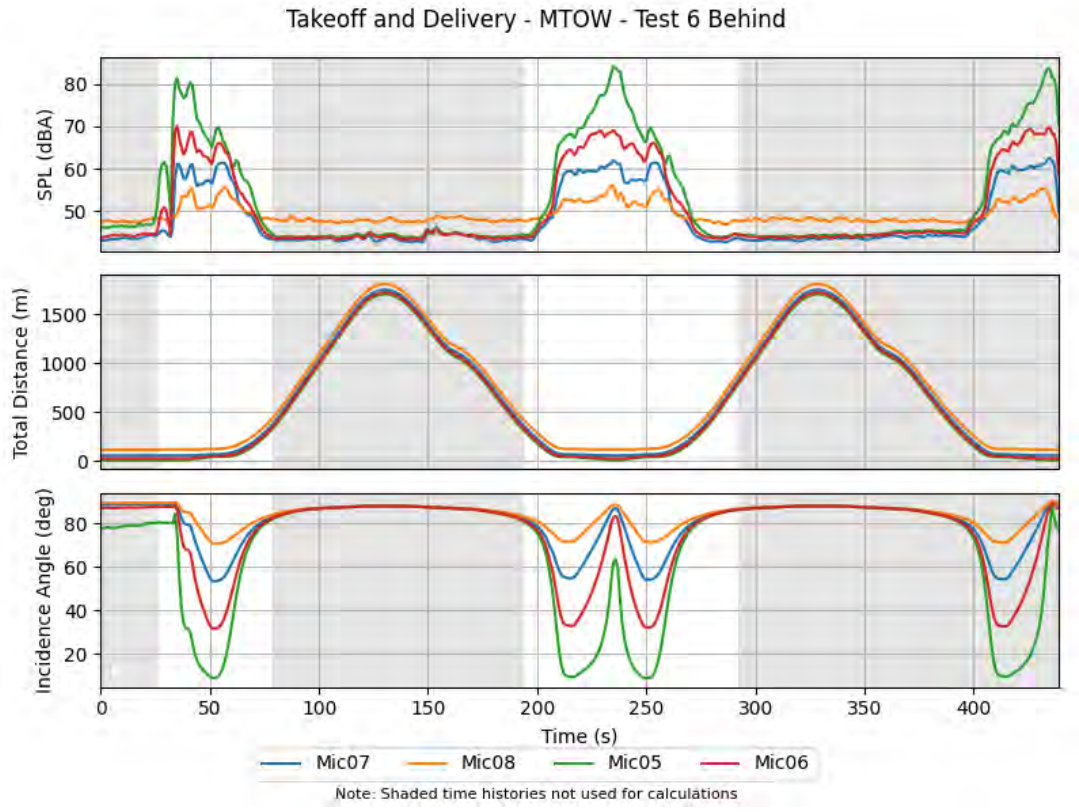

Takeoff and Delivery - MTOW - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

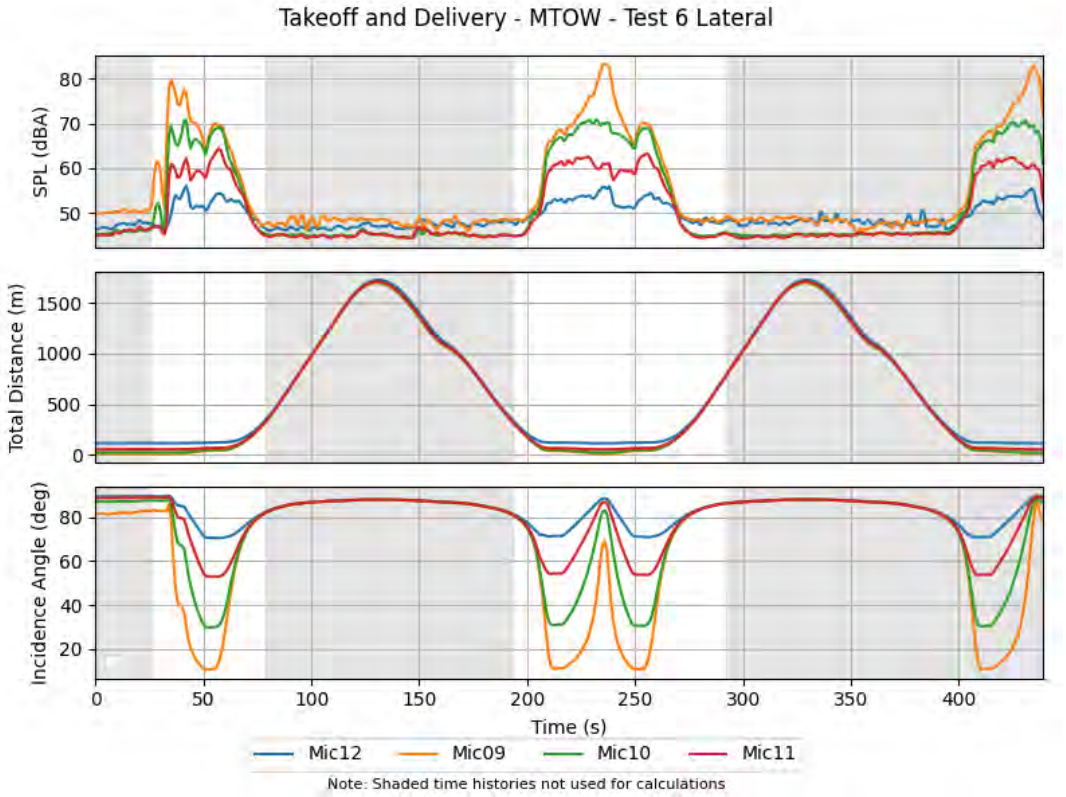

Takeoff and Delivery - MTOW - Test 5 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

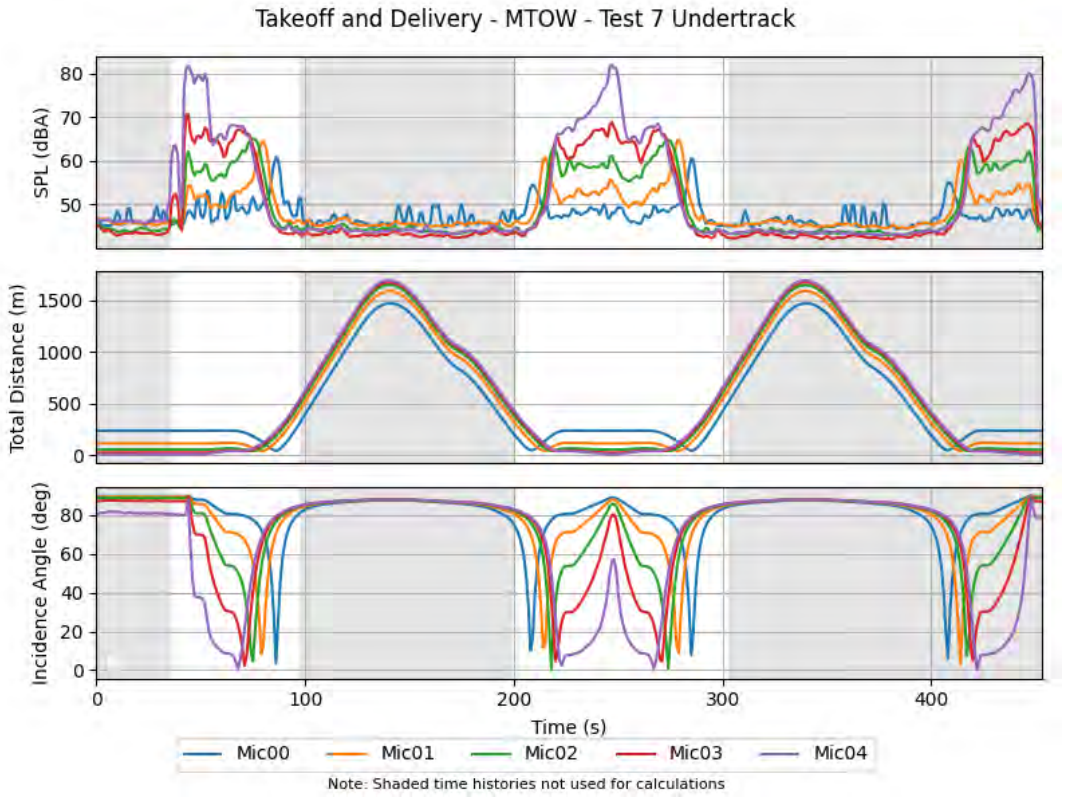

Takeoff and Delivery - MTOW - Test 5 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

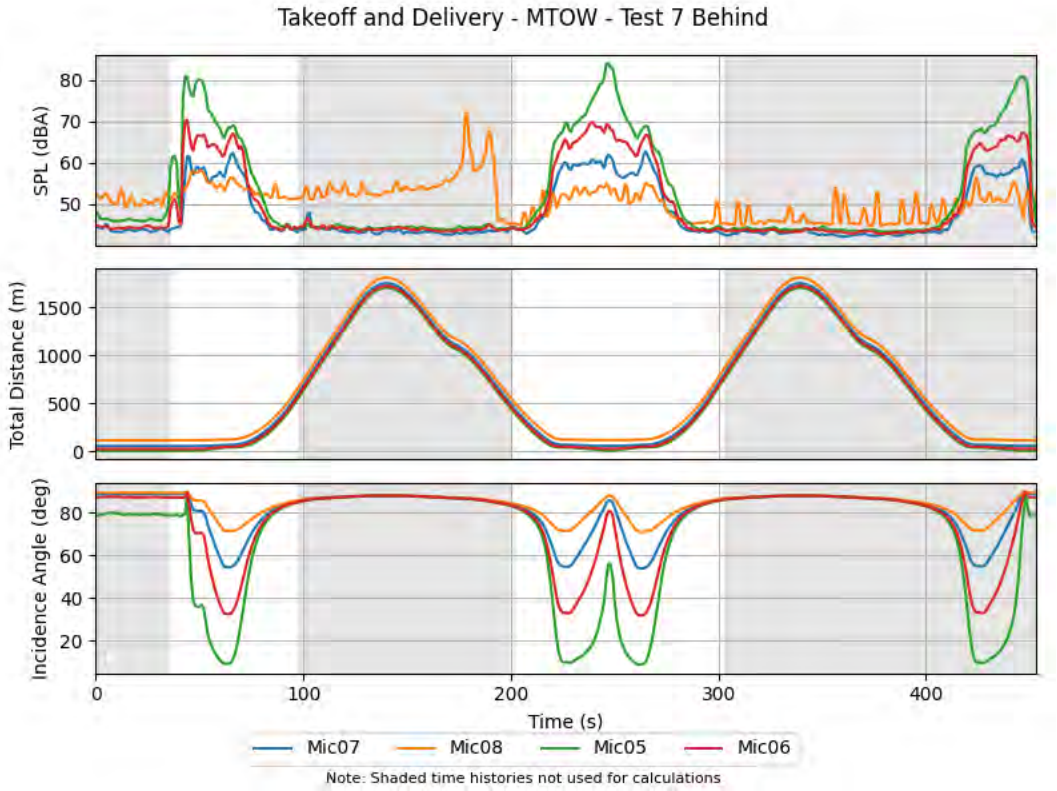

Takeoff and Delivery - MTOW - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

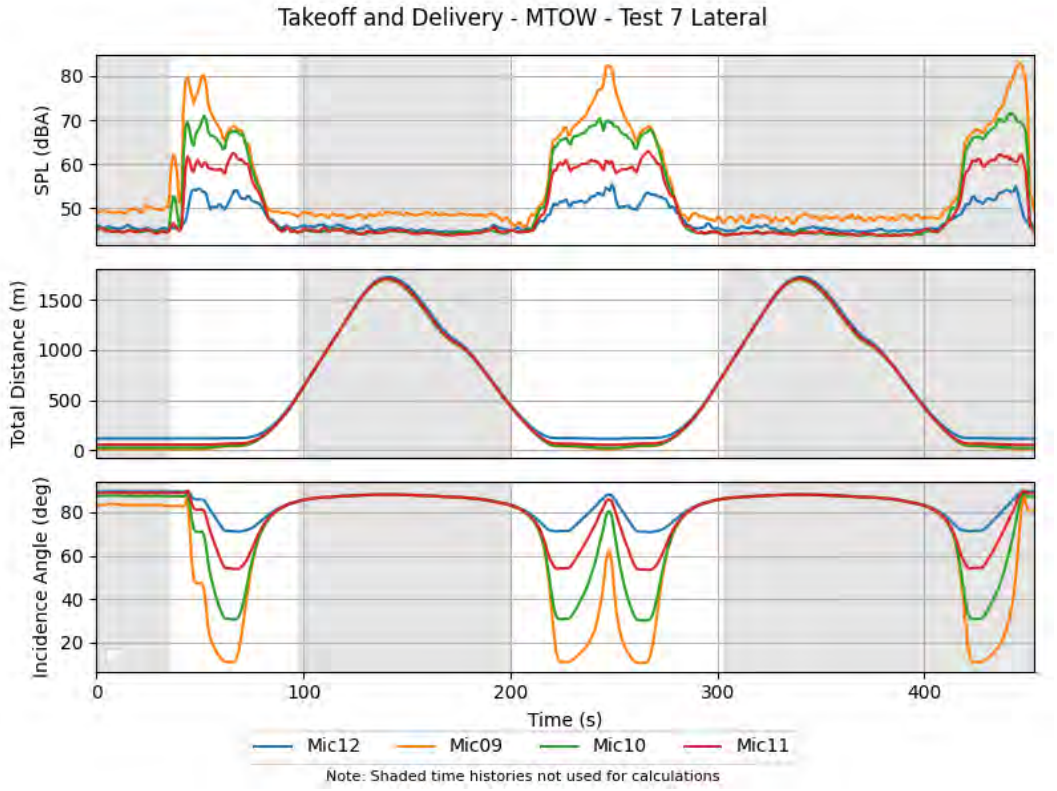

Takeoff and Delivery - MTOW - Test 6 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

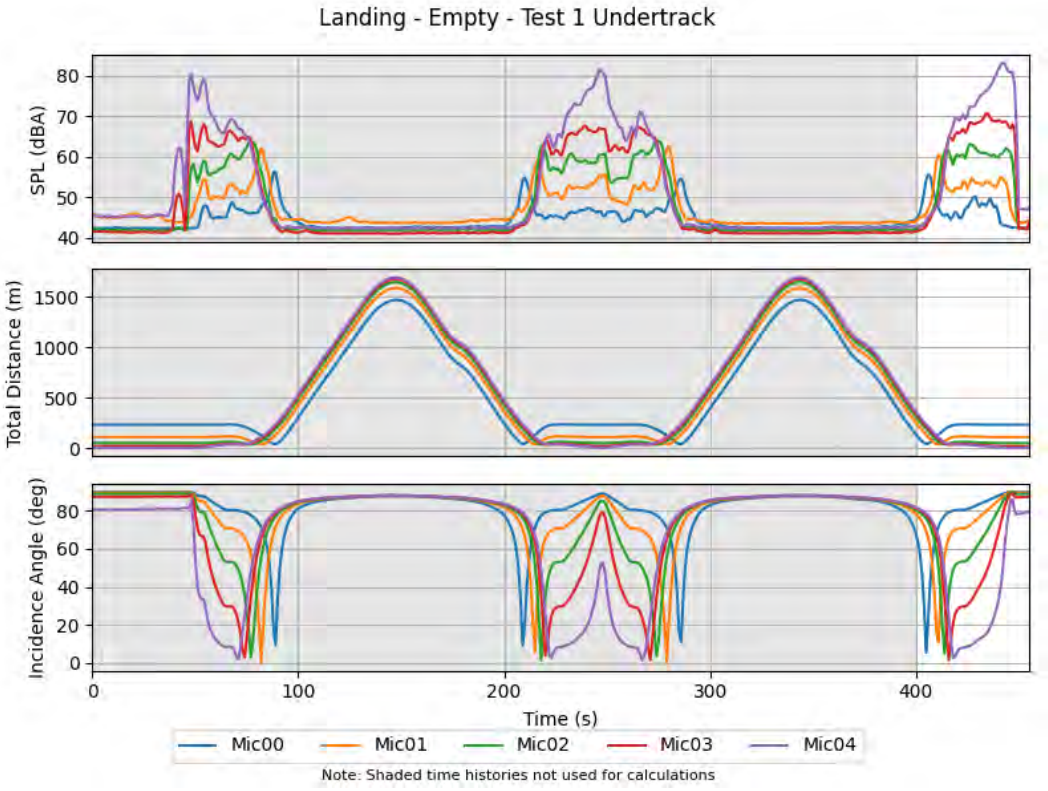

Takeoff and Delivery - MTOW - Test 6 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

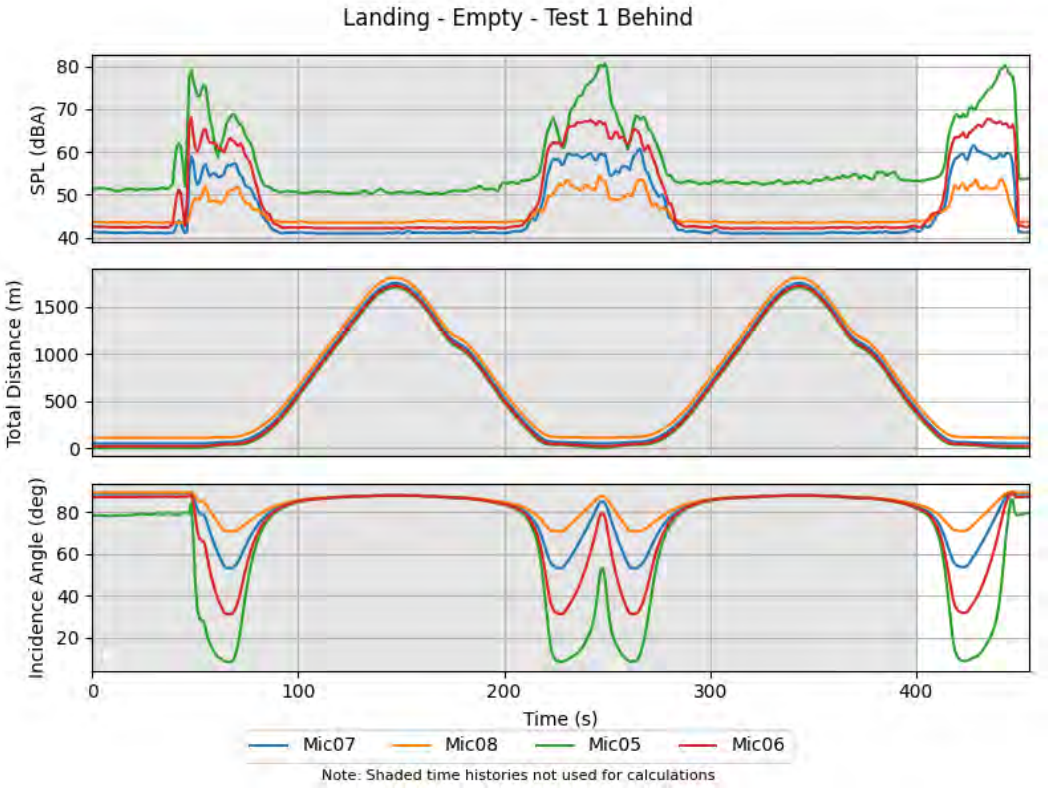

Takeoff and Delivery - MTOW - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

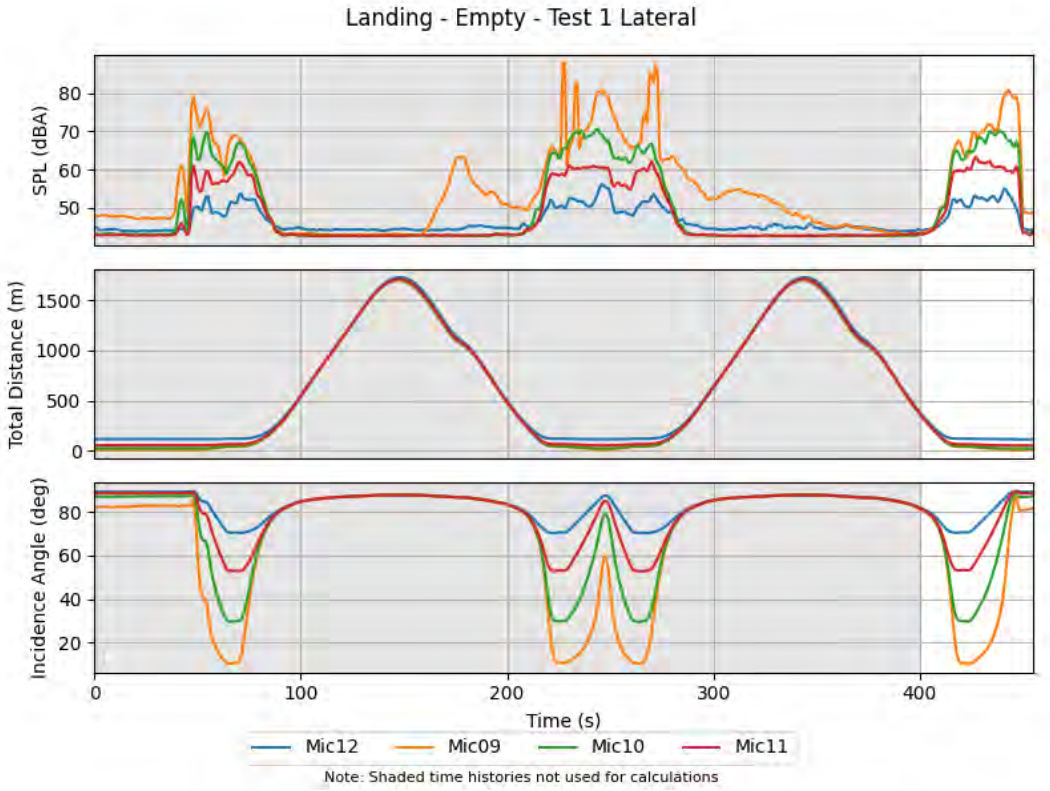

Takeoff and Delivery - MTOW - Test 7 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

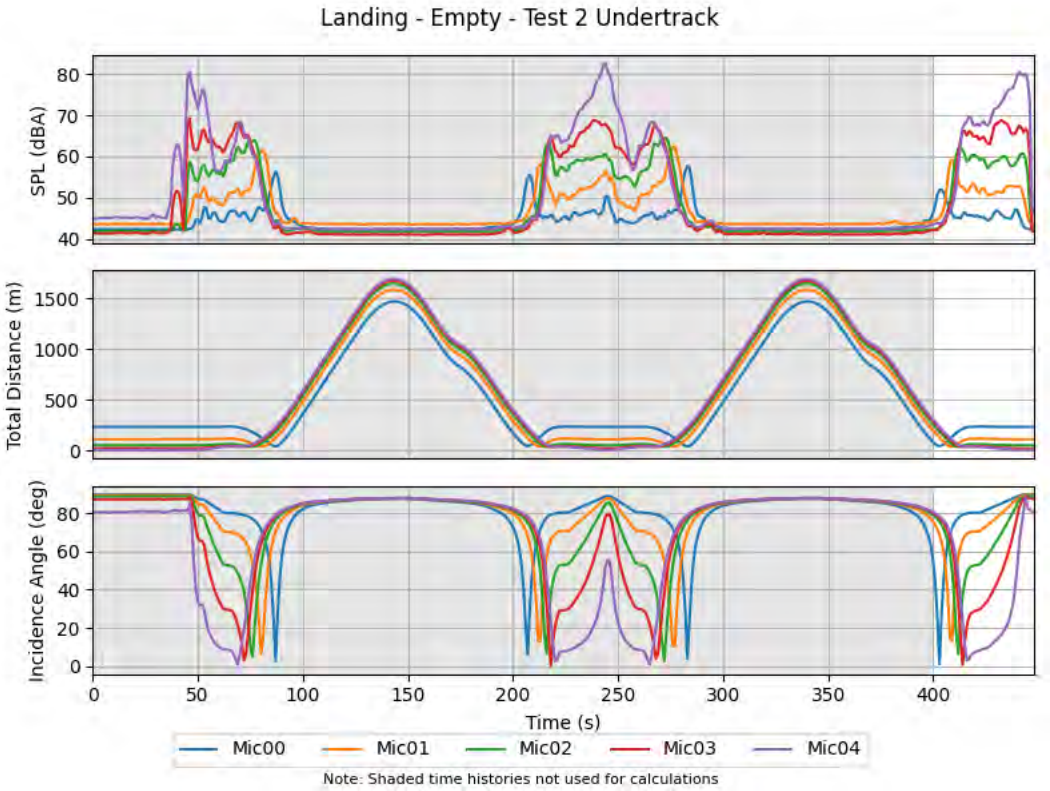

Takeoff and Delivery - MTOW - Test 7 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

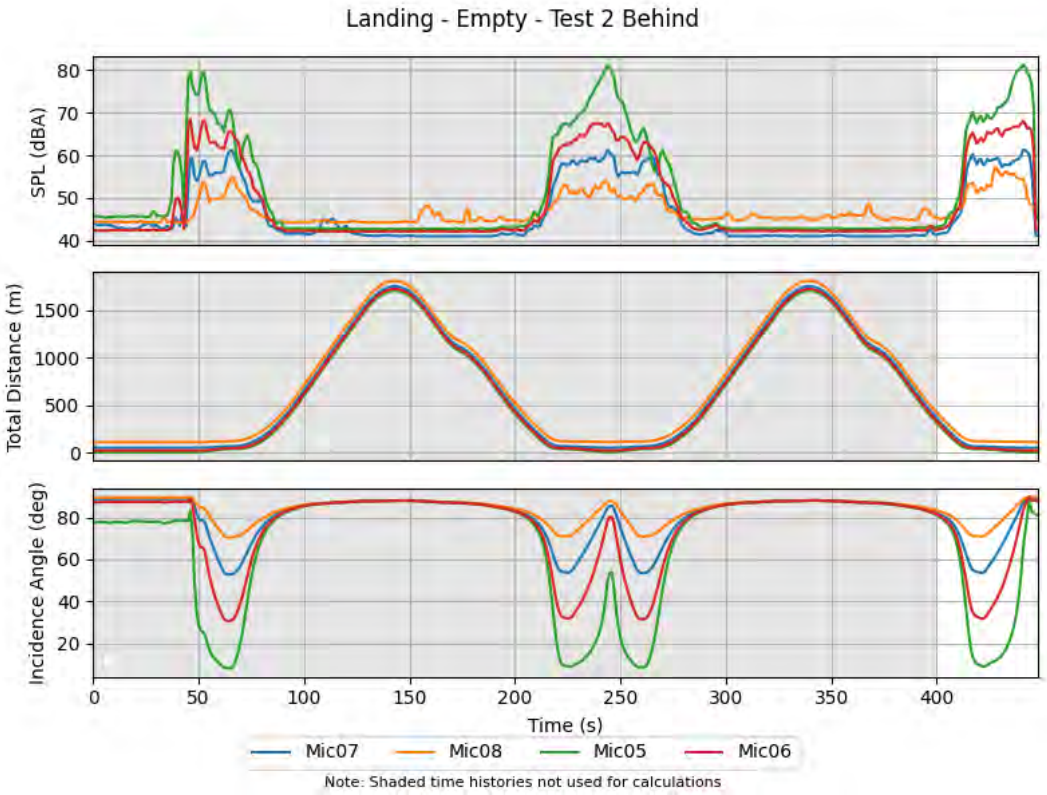

Takeoff and Delivery - MTOW - Test 7 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

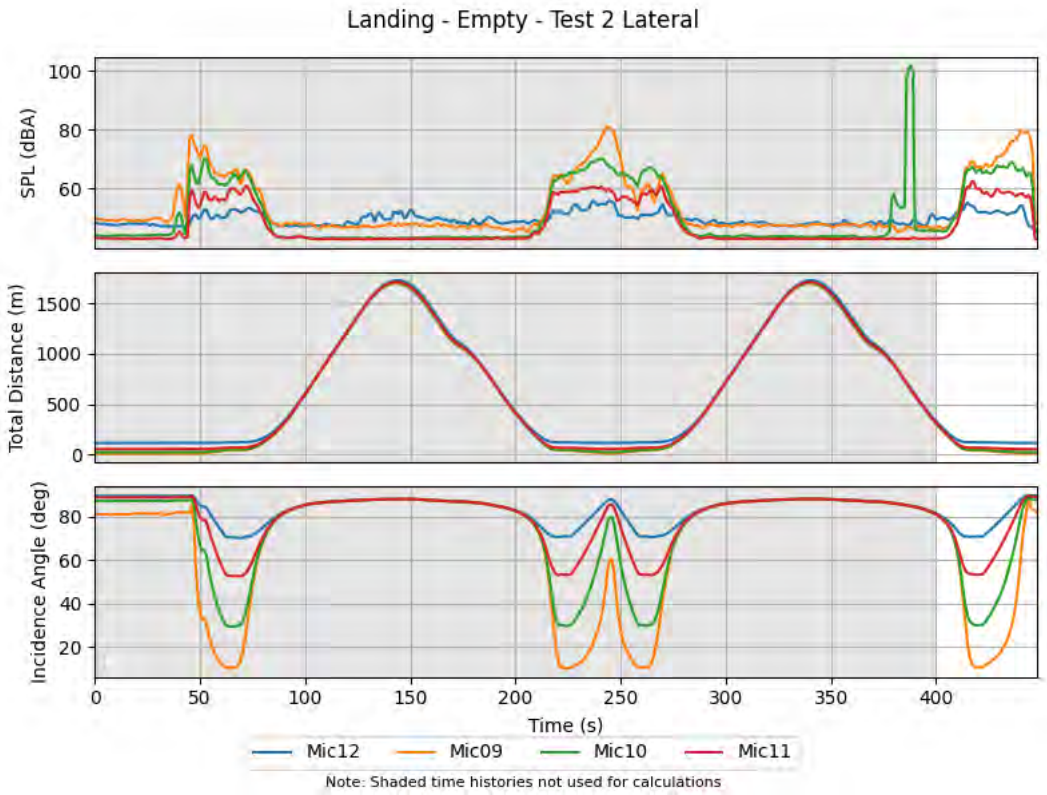

Landing - Empty - Test 1 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations


Landing - Empty - Test 1 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

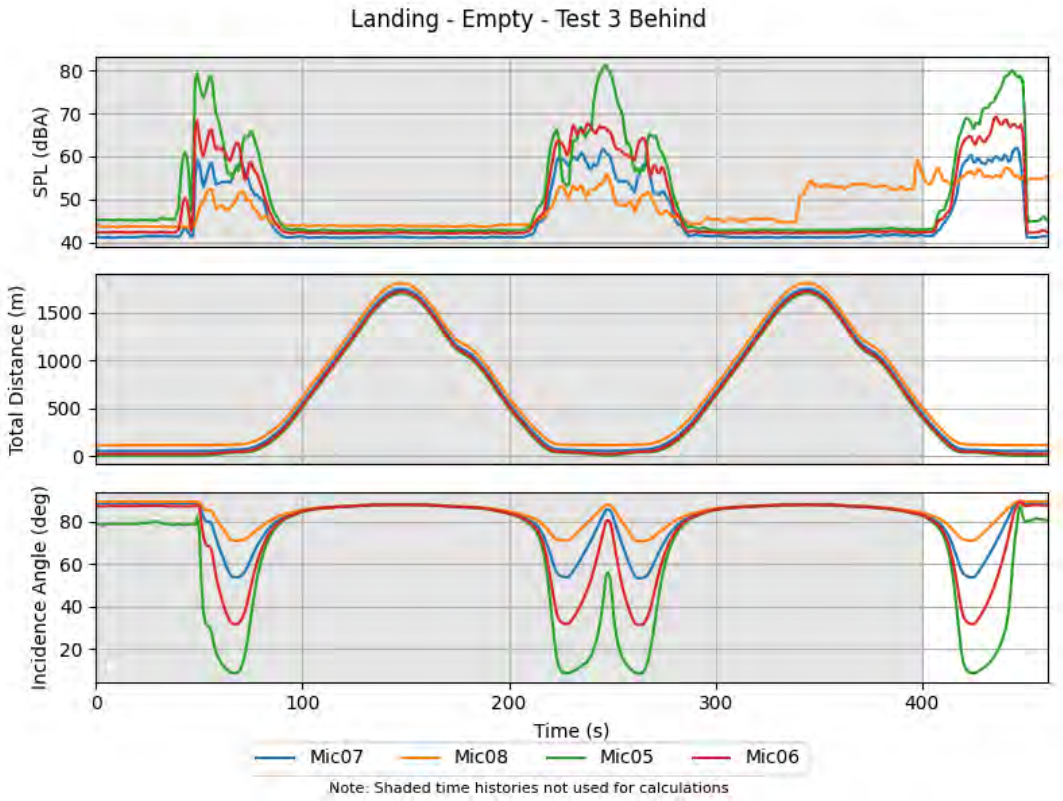

Landing - Empty - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

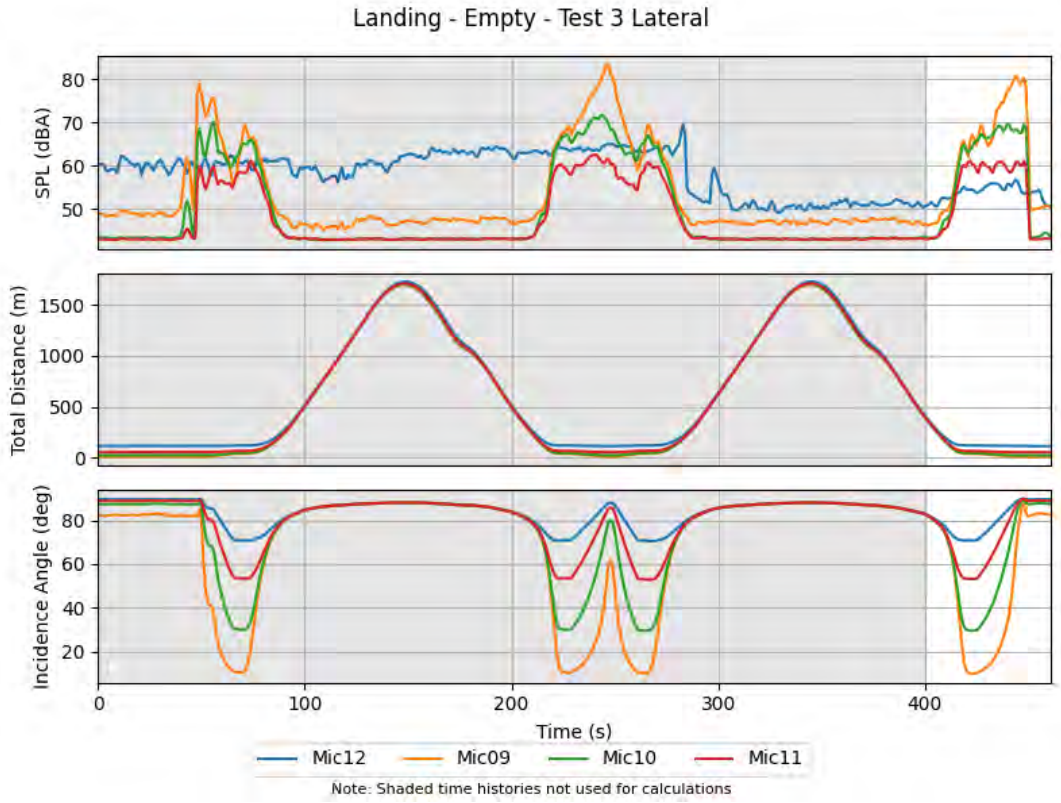

Landing - Empty - Test 2 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

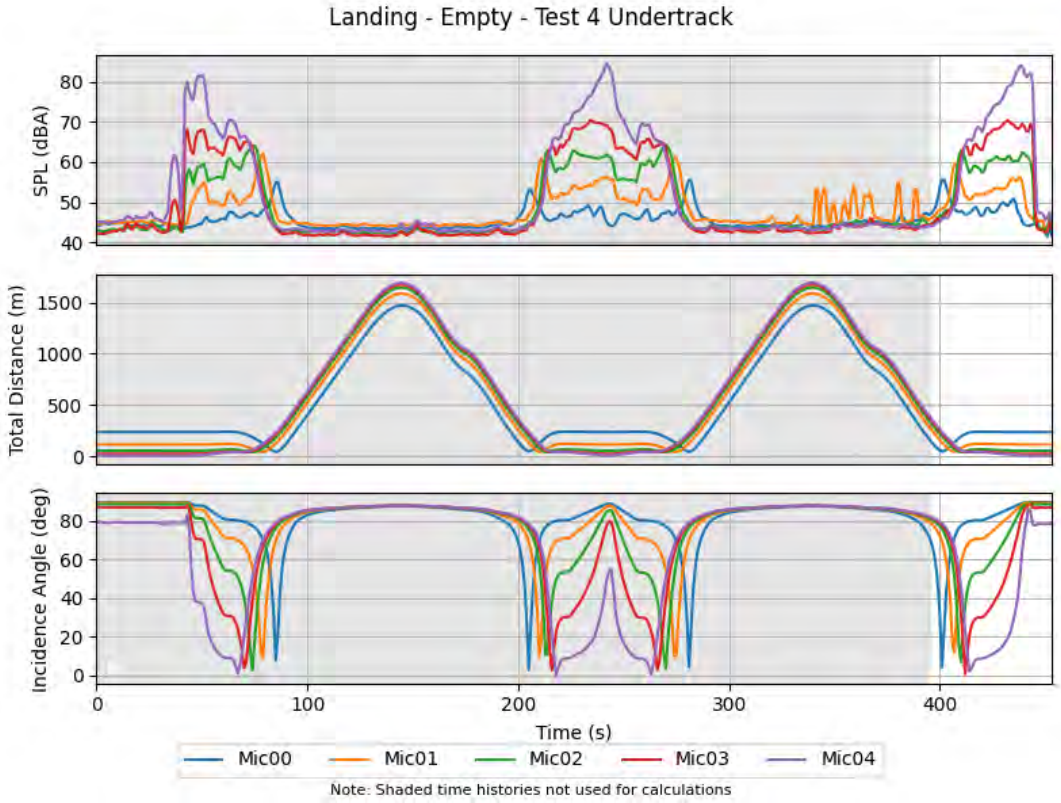

Landing - Empty - Test 2 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

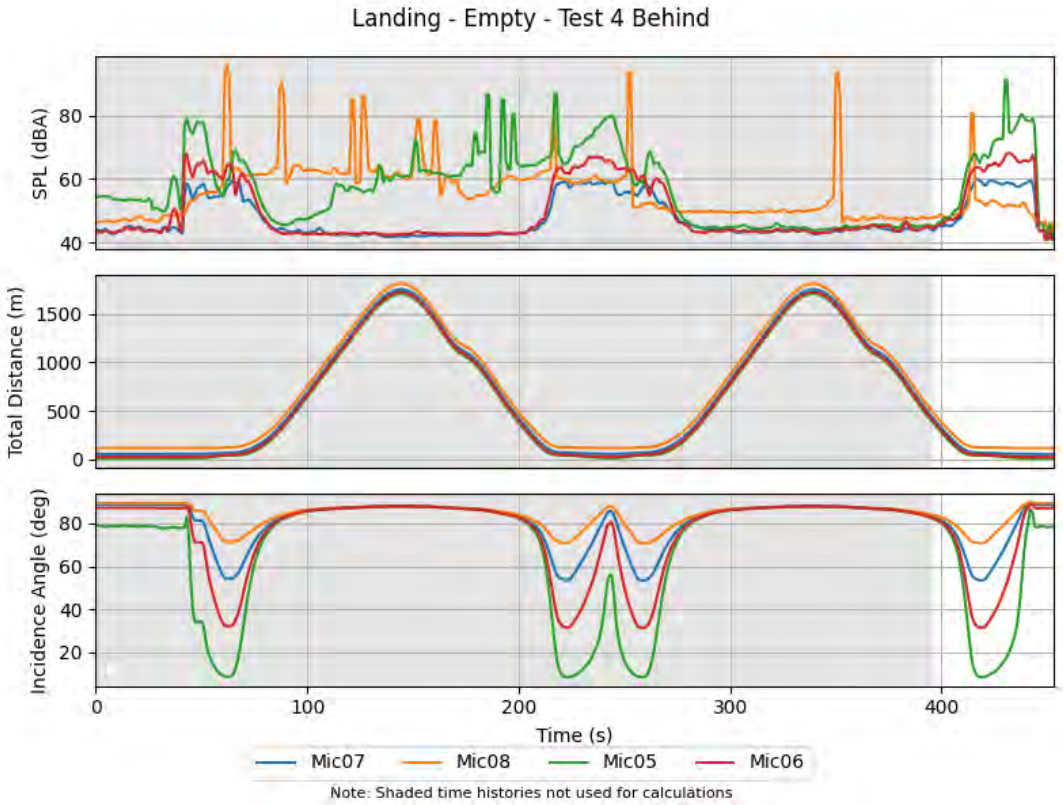

Landing - Empty - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

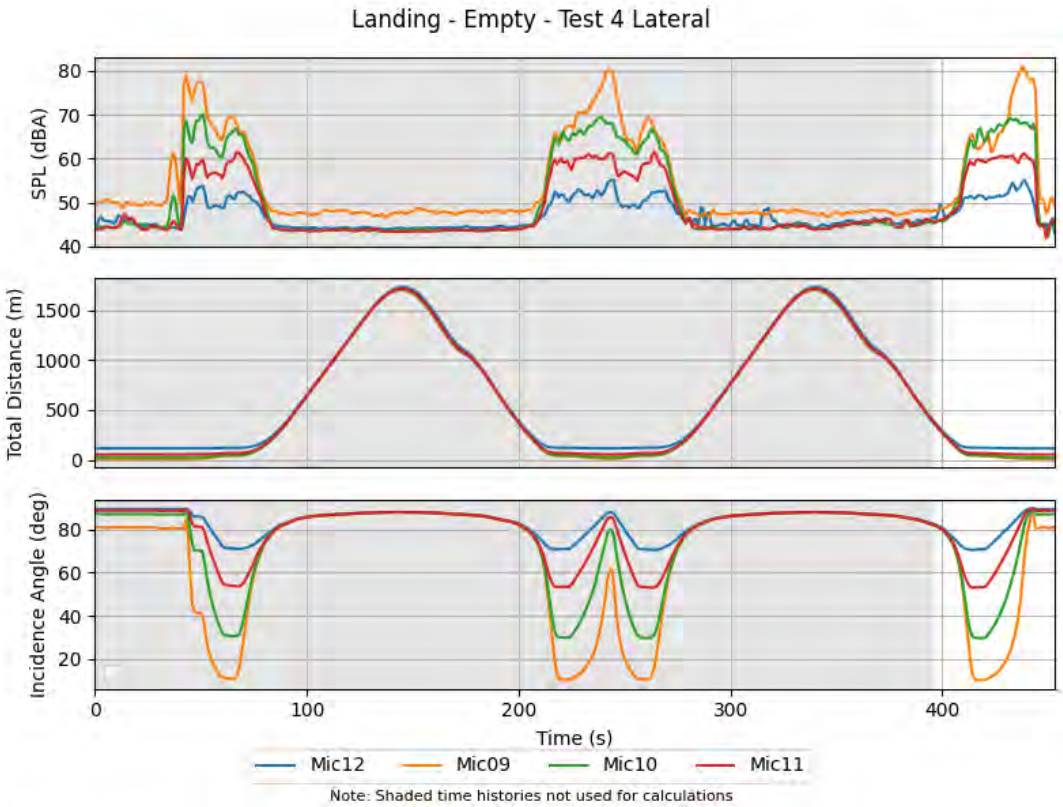

Landing - Empty - Test 3 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

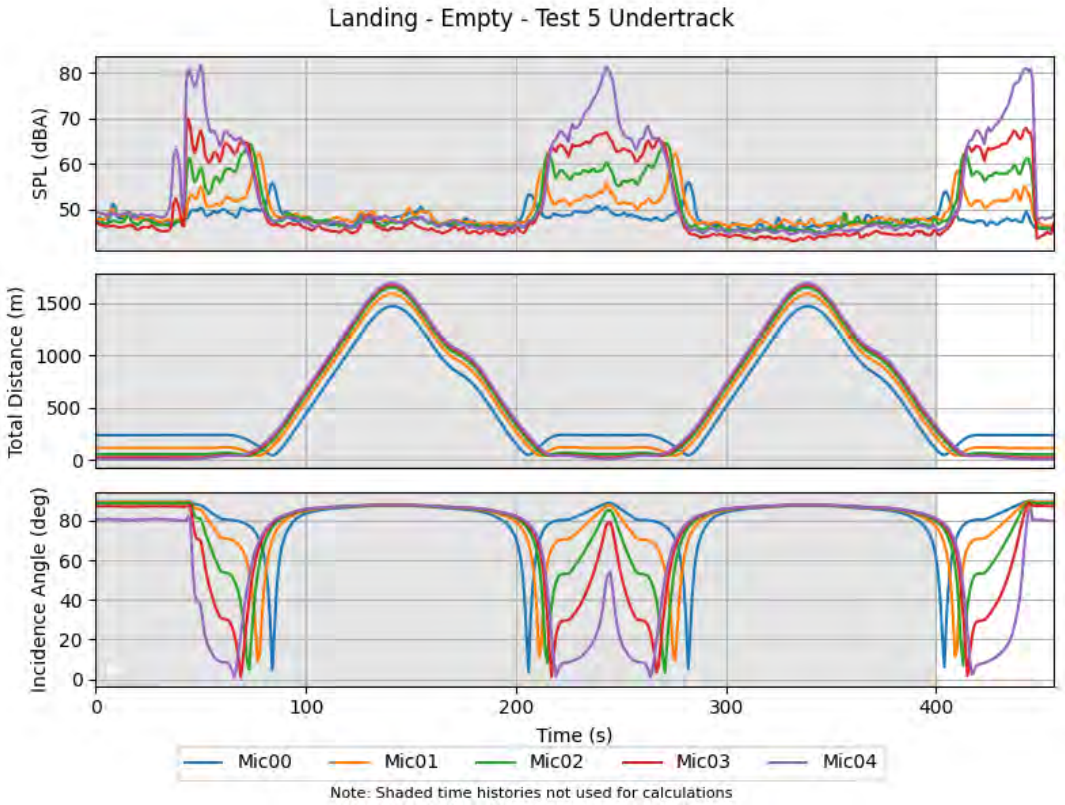

Landing - Empty - Test 3 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

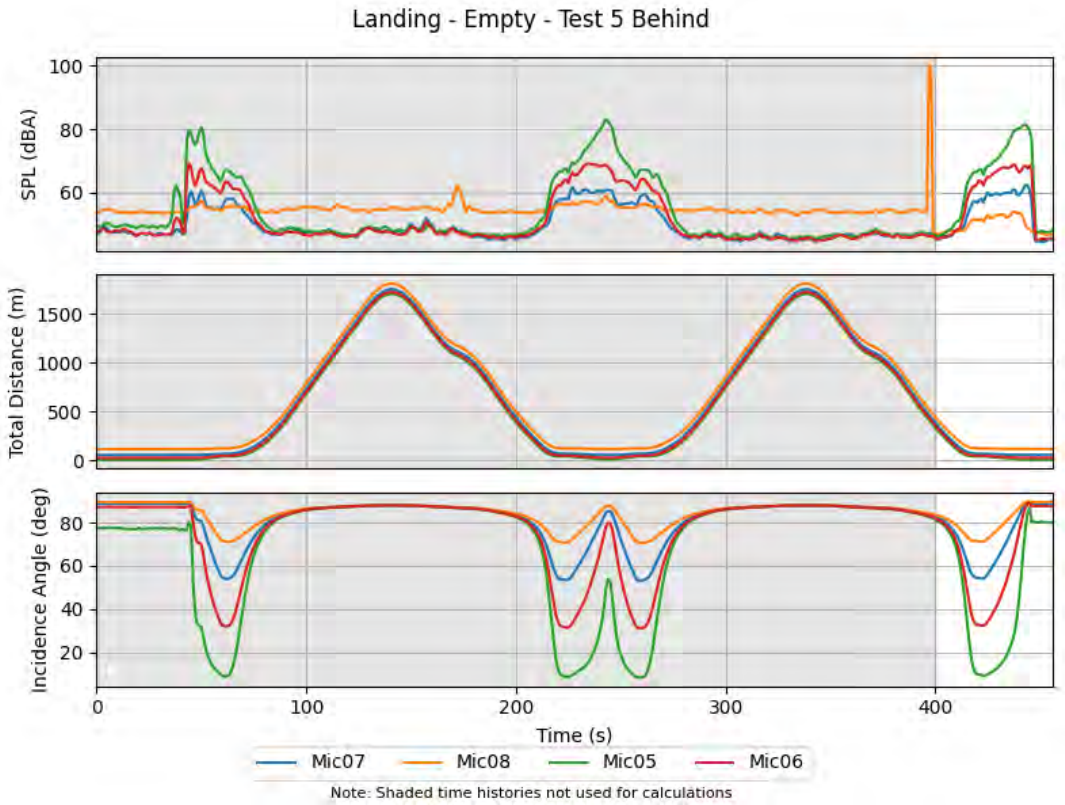

Landing - Empty - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

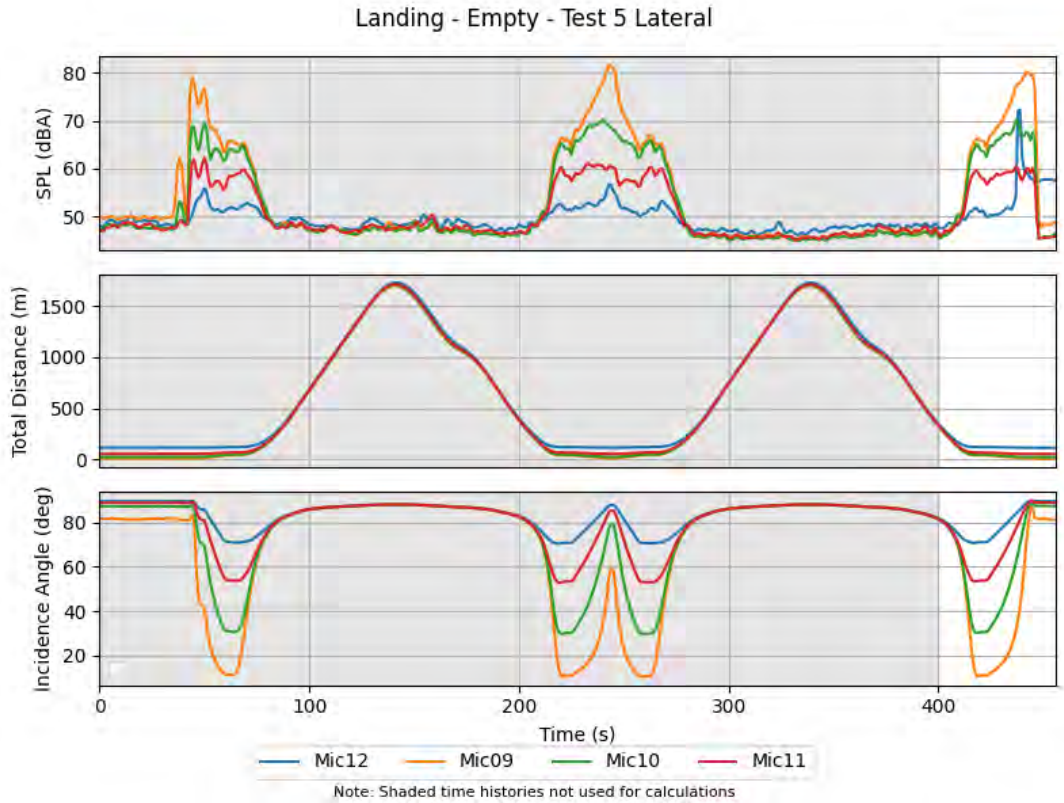

Landing - Empty - Test 4 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

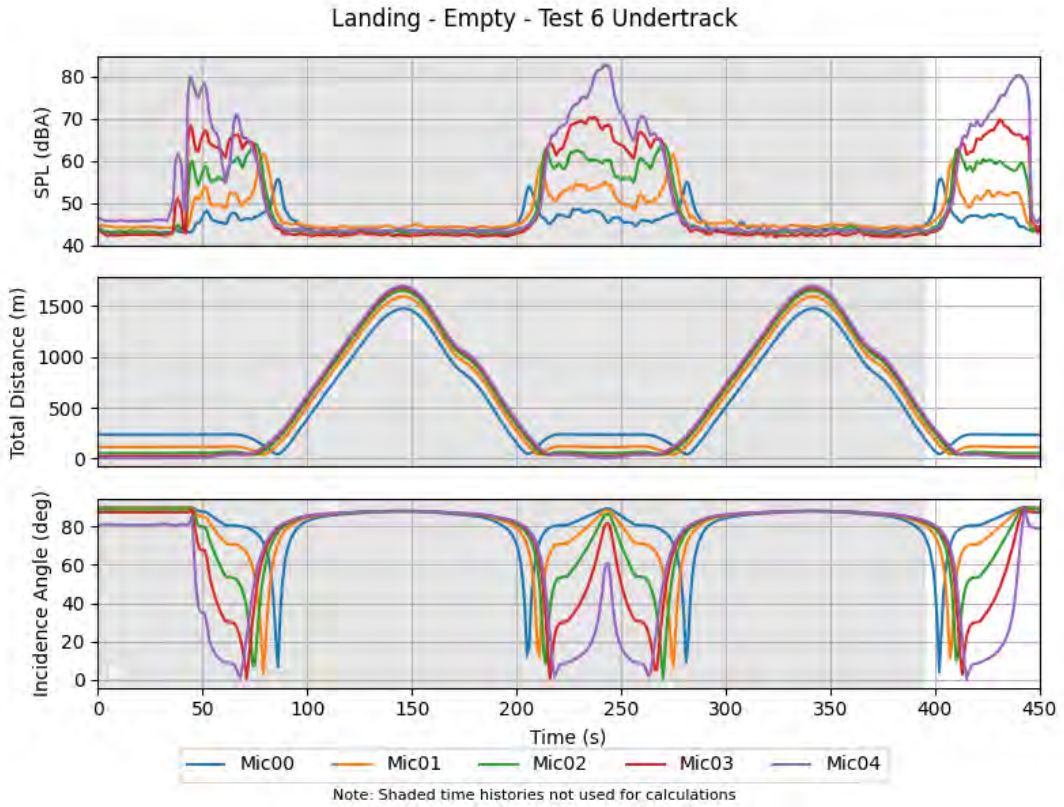

Landing - Empty - Test 4 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

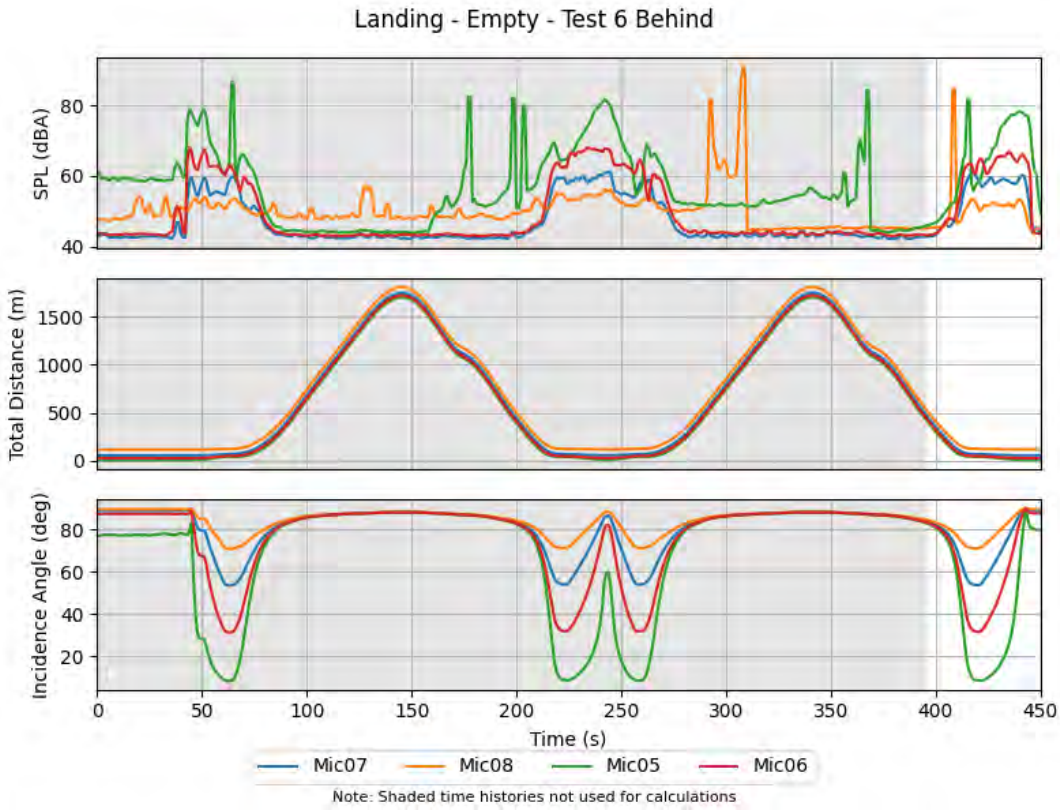

Landing - Empty - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

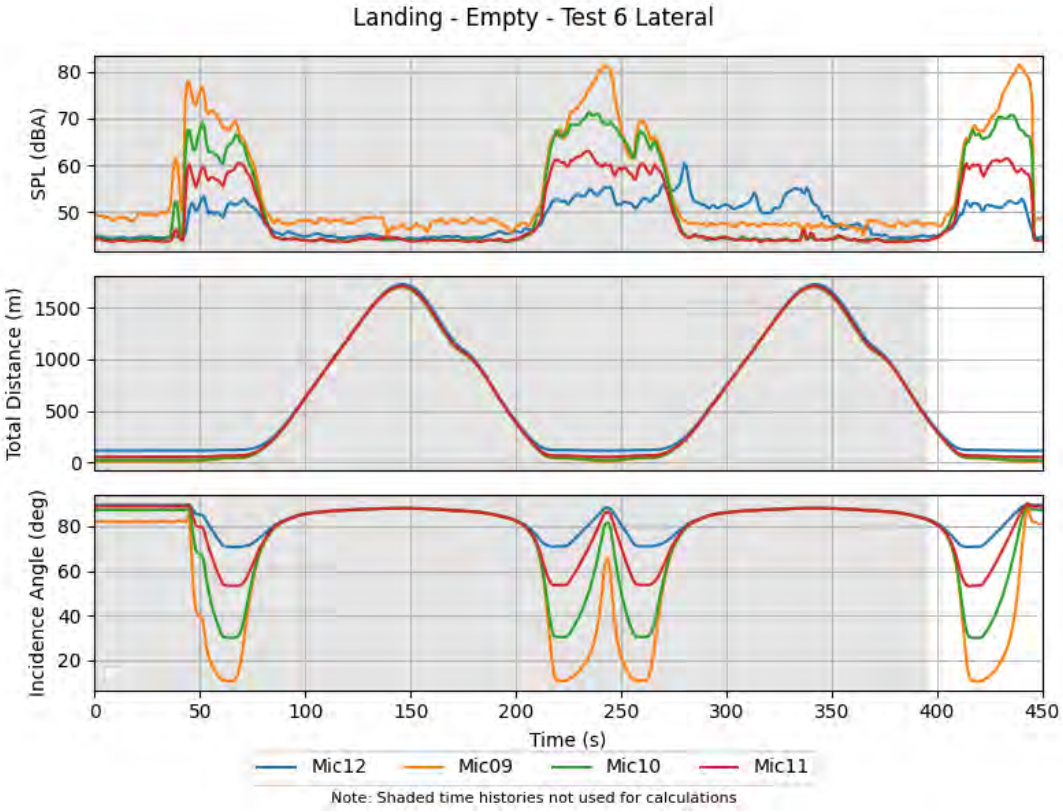

Landing - Empty - Test 5 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

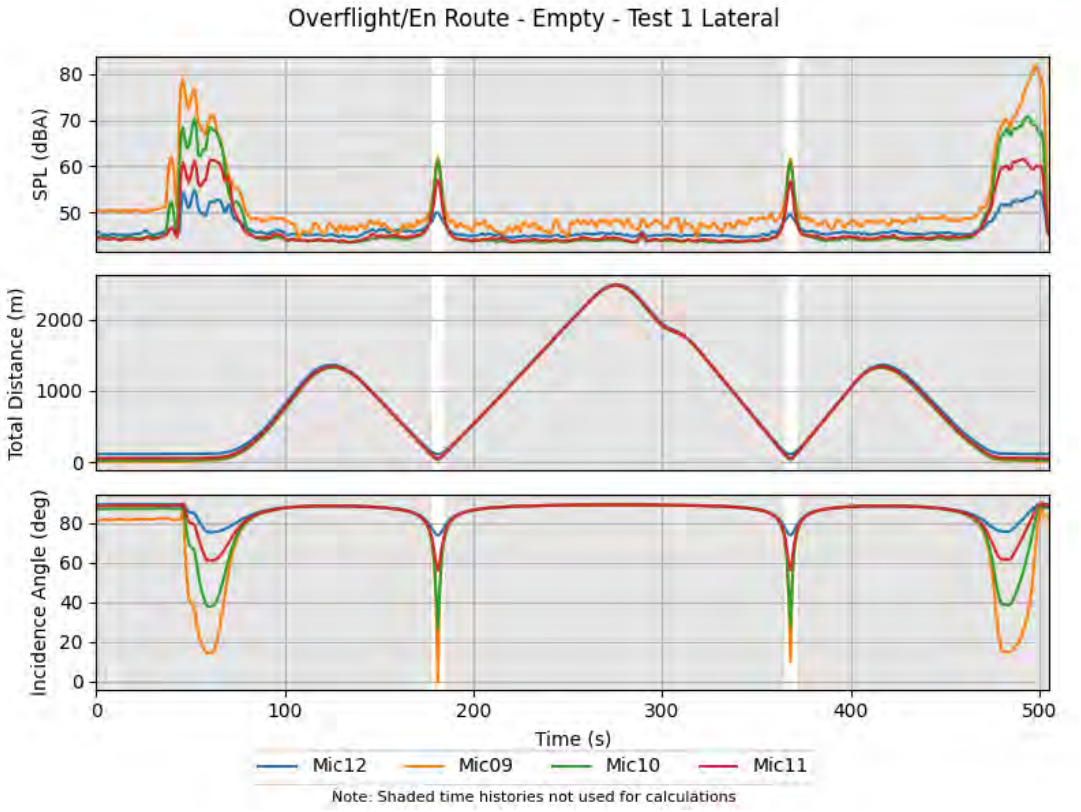

Landing - Empty - Test 5 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

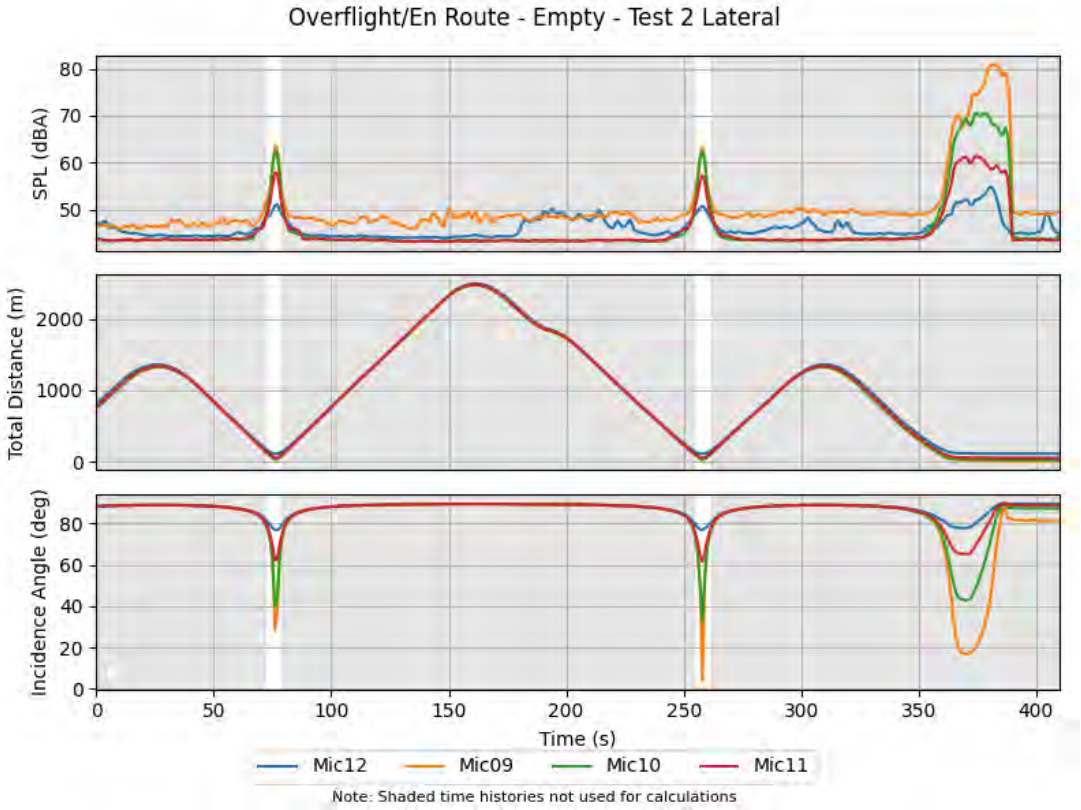

Landing - Empty - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

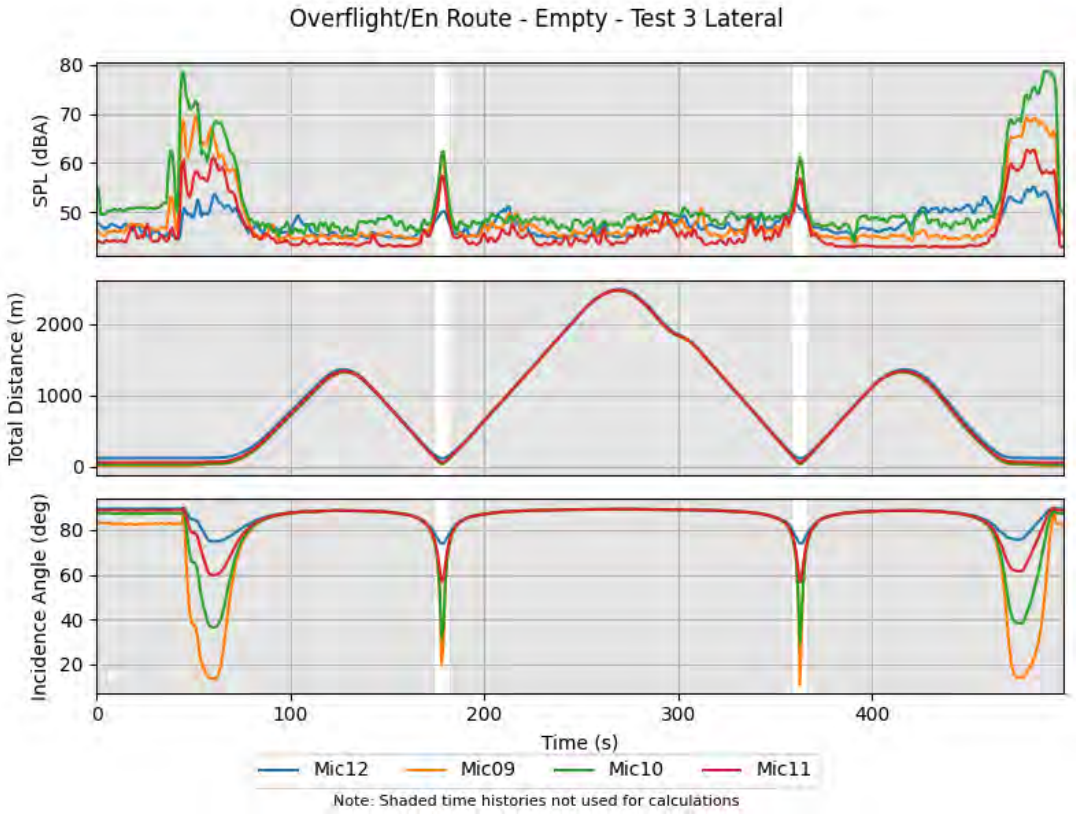

Landing - Empty - Test 6 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

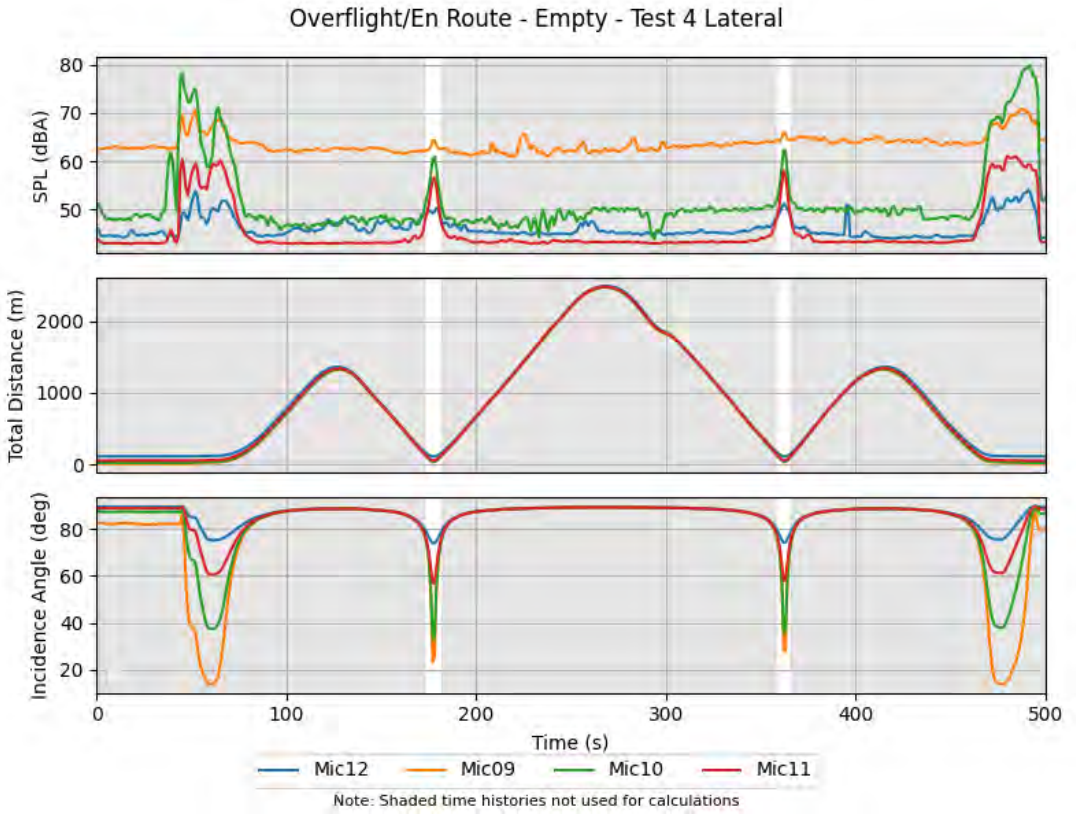

Landing - Empty - Test 6 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

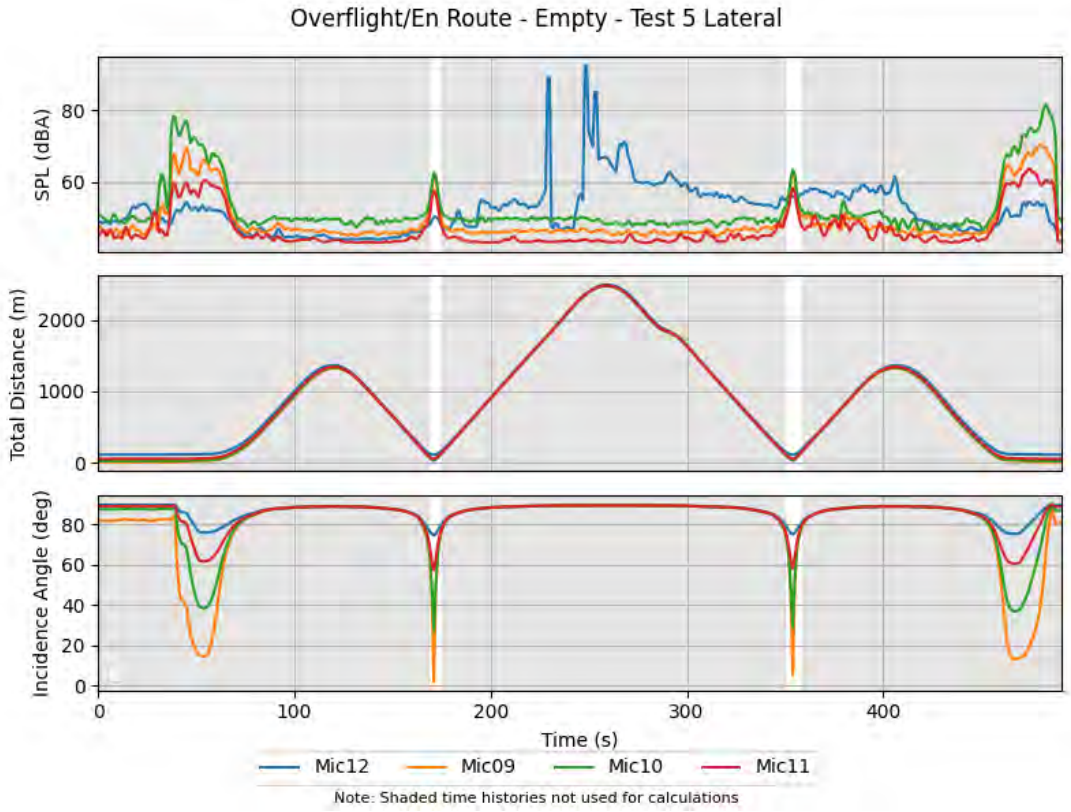

Landing - Empty - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

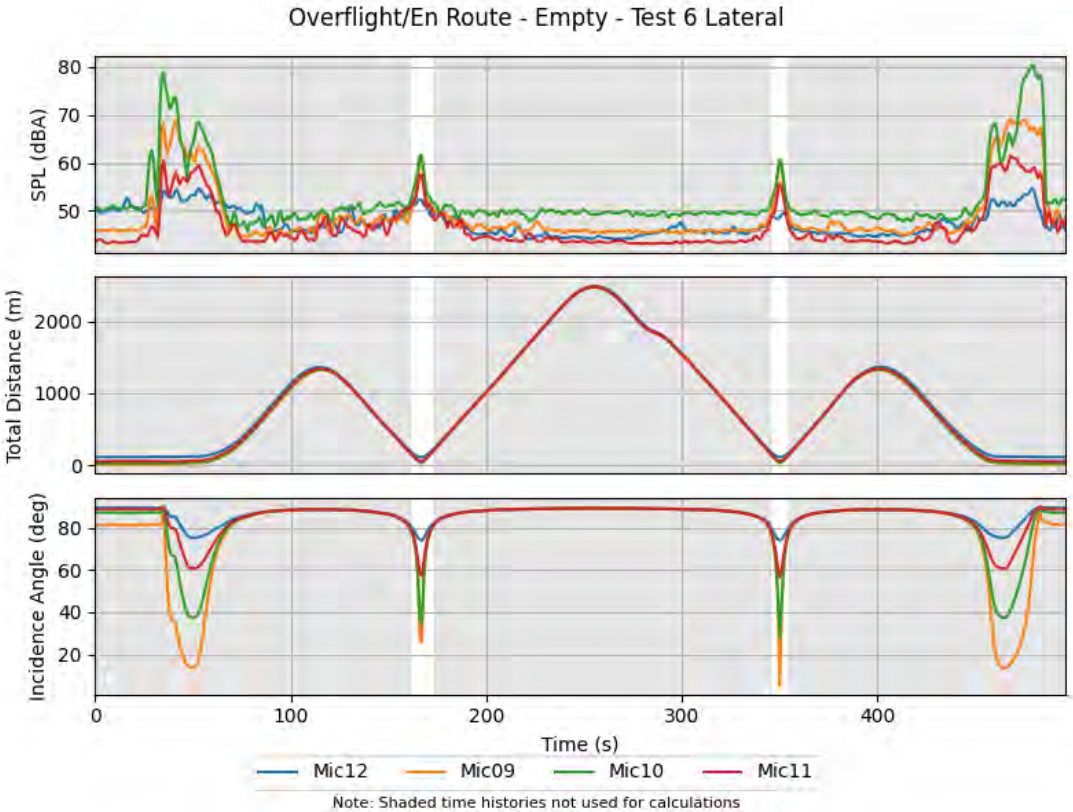

Overflight/En Route - Empty - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

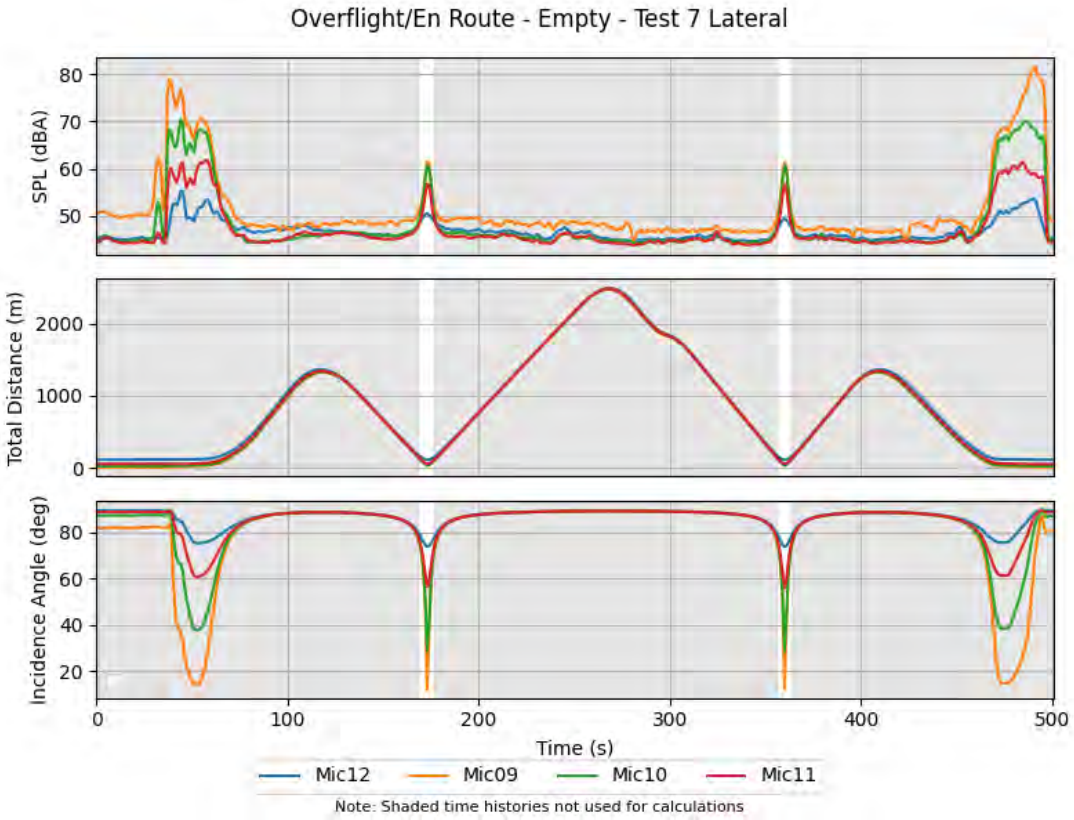

Overflight/En Route - Empty - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

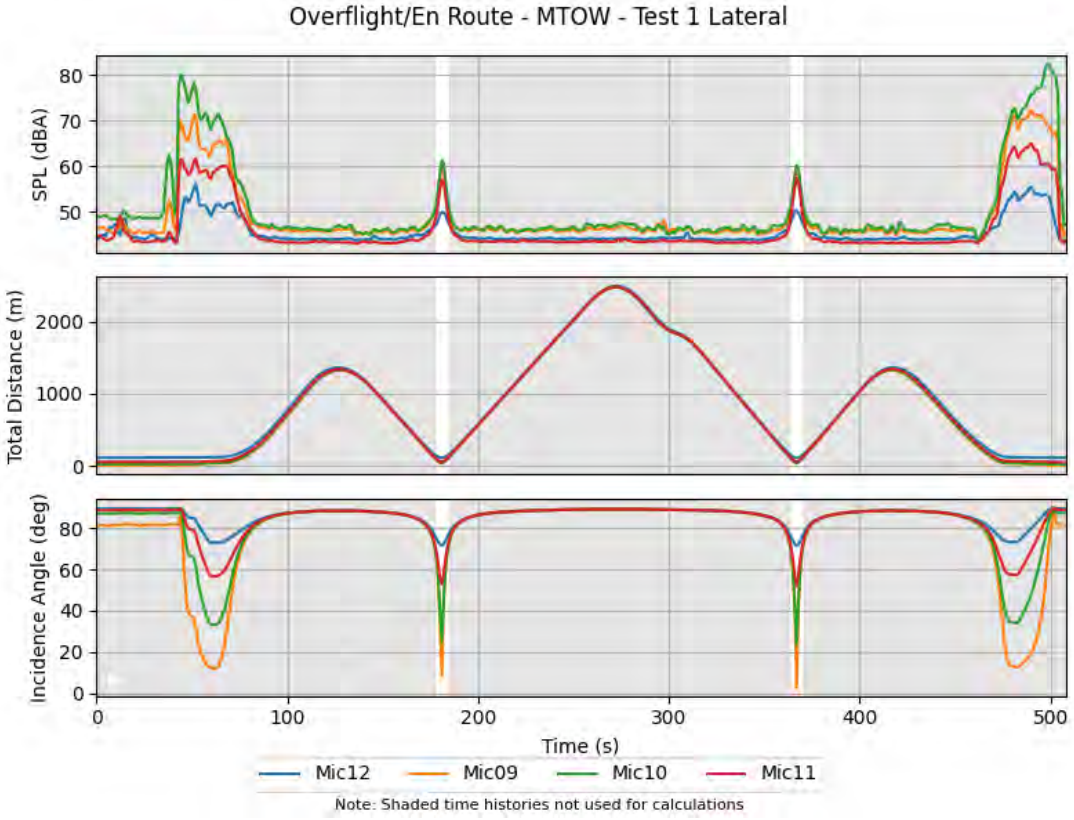

Overflight/En Route - Empty - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

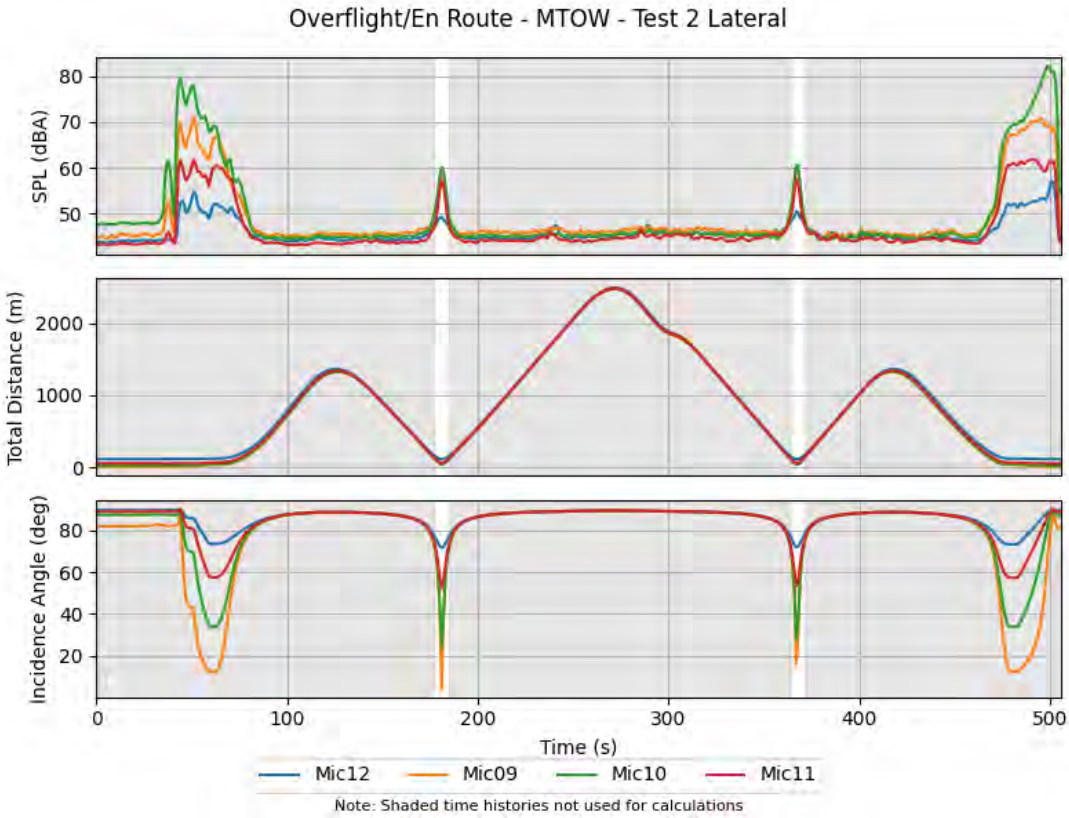

Overflight/En Route - Empty - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

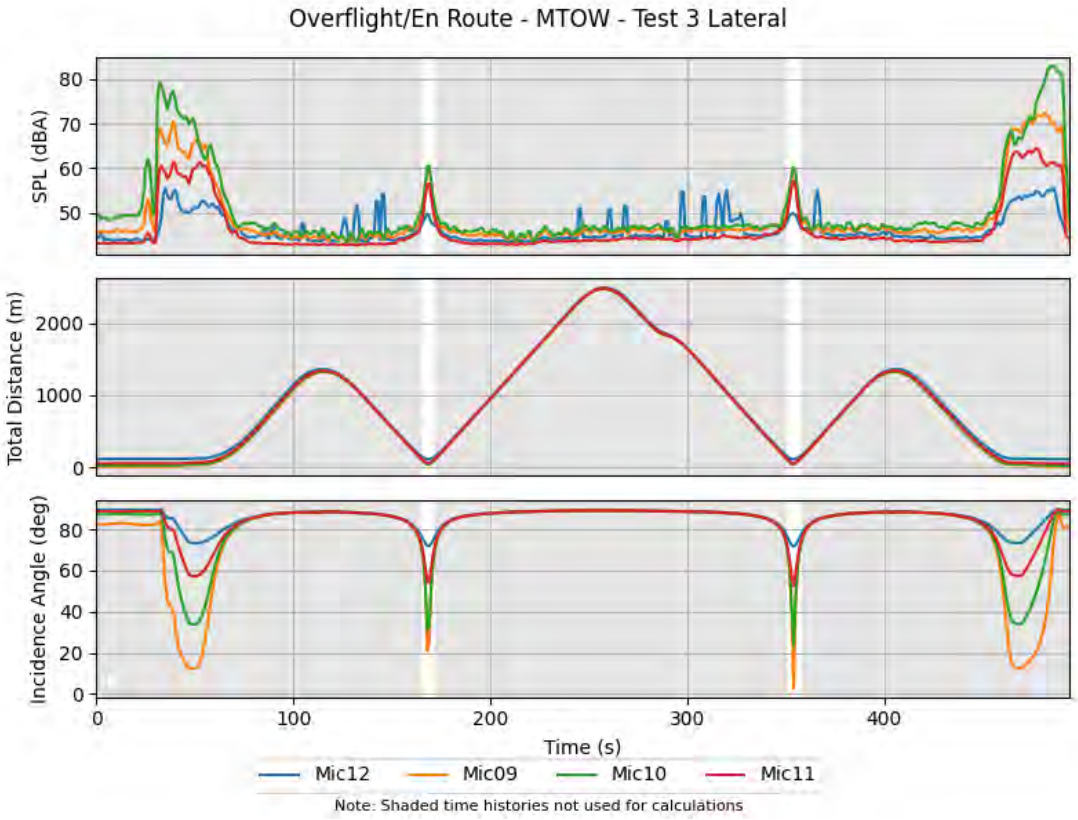

Overflight/En Route - Empty - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

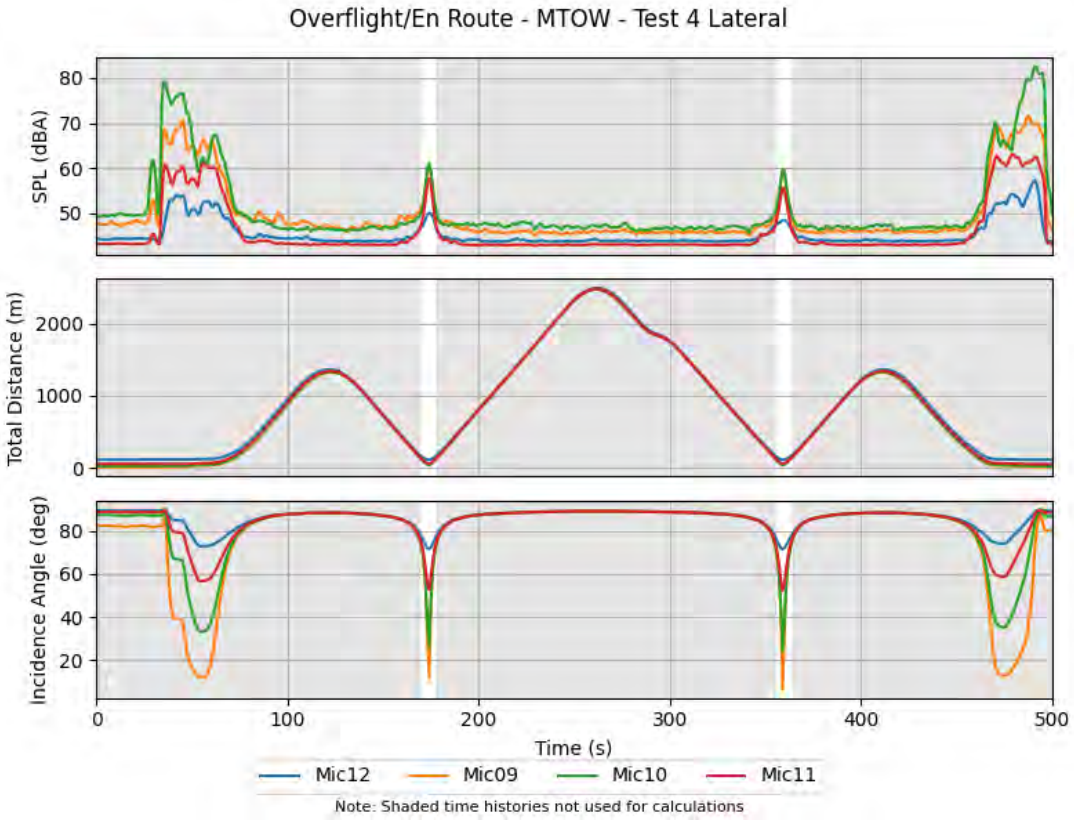

Overflight/En Route - Empty - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

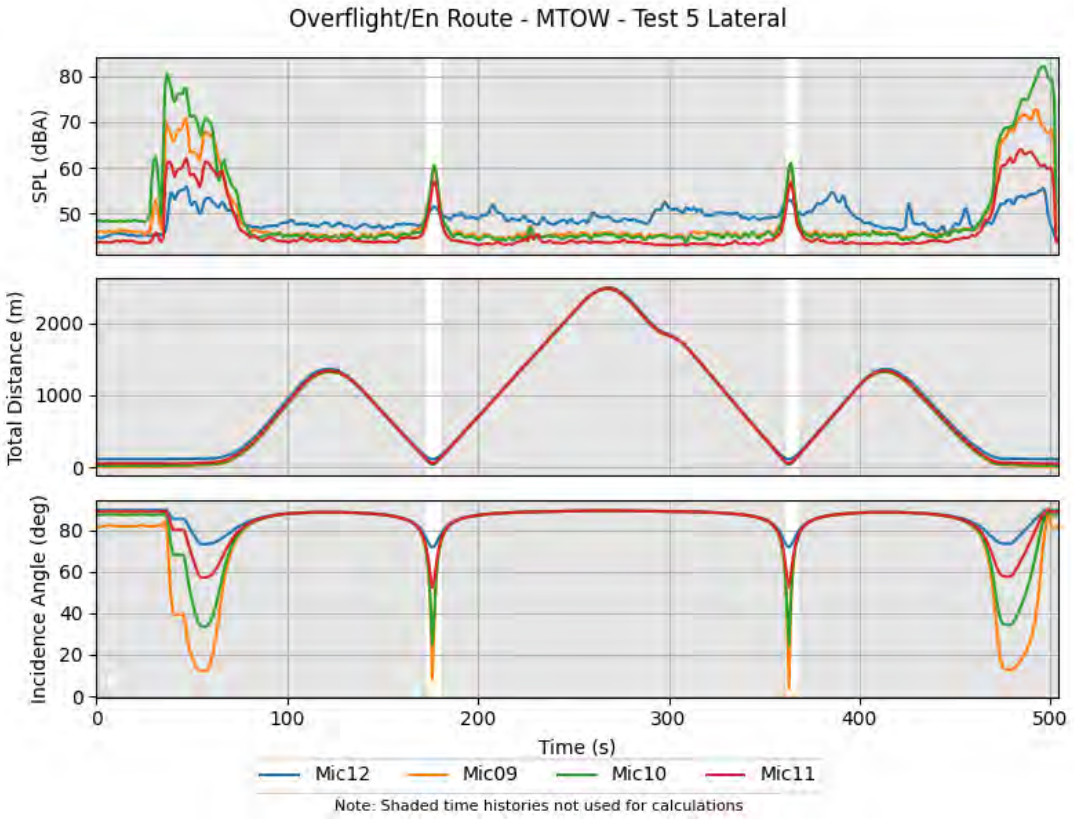

Overflight/En Route - Empty - Test 7 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

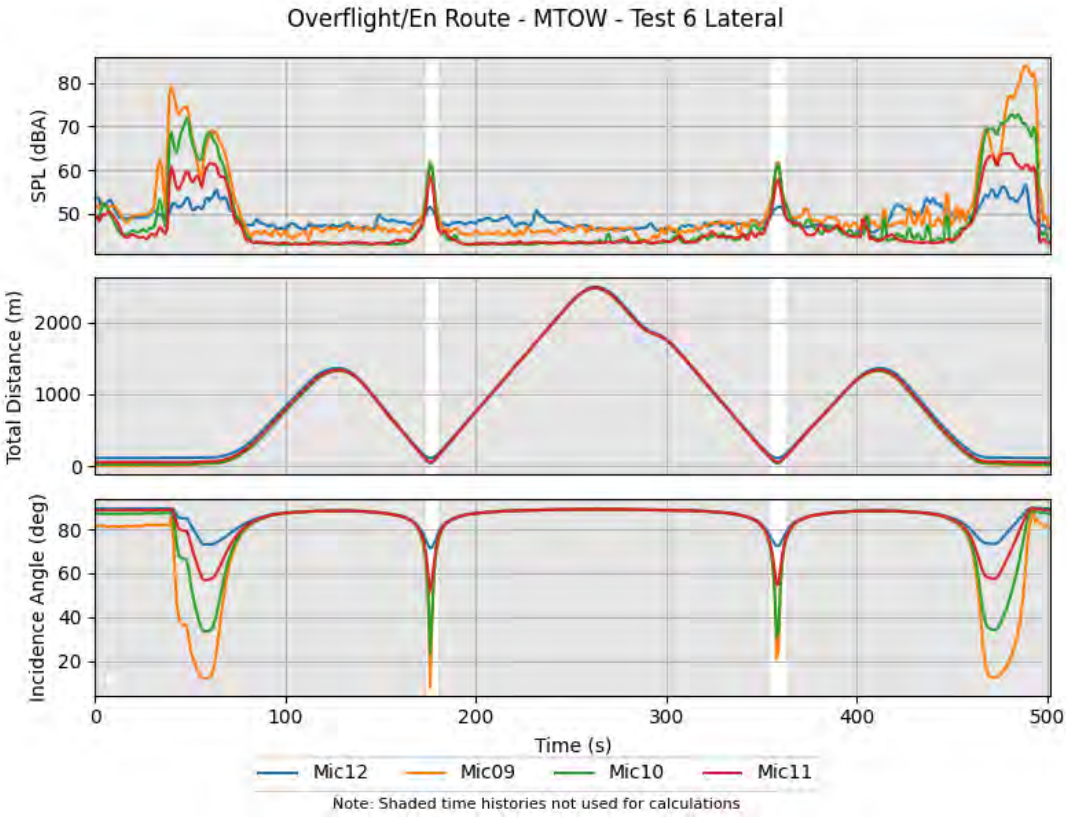

Overflight/En Route - MTOW - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 6 Lateral
SPL (dBA)
80
70
60
50
Total Distance (m)
2000
1000
0
Incidence Angle (deg)
80
60
40
20
0
100
200
300
400
500
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

Attachment D

Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
1505 Ferguson Lane
Austin, TX 78754-4501
Phone: (512) 937-7371

In Reply Refer To: 05/15/2025 16:23:19 UTC
Project Code: 2025-0097332
Project Name: AMZ Texas

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Marine Mammals
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Austin Ecological Services Field Office
1505 Ferguson Lane
Austin, TX 78754-4501
(512) 937-7371

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

Arlington Ecological Services Field Office
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
(817) 277-1100

Texas Coastal & Central Plains Esfo
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
(281) 286-8282

PROJECT SUMMARY

Project Code: 2025-0097332
Project Name: AMZ Texas
Project Type: Airport - New Construction
Project Description: Prime Air is seeking authorization (FAA approval) to conduct commercial package deliveries using drones throughout the state of Texas.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@32.98950175,-97.31367088346025,14z

Counties: Texas

ENDANGERED SPECIES ACT SPECIES

There is a total of 50 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

BIRDS

NAME	STATUS
Attwater's Greater Prairie-chicken *Tympanuchus cupido attwateri* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7259	Endangered
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Golden-cheeked Warbler *Setophaga chrysoparia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/33	Endangered
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Northern Aplomado Falcon *Falco femoralis septentrionalis* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red-cockaded Woodpecker *Dryobates borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

NAME	STATUS
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Hawksbill Sea Turtle *Eretmochelys imbricata* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered

AMPHIBIANS

NAME	STATUS
Austin Blind Salamander *Eurycea waterlooensis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5737	Endangered
Jollyville Plateau Salamander *Eurycea tonkawae* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3116	Threatened
San Marcos Salamander *Eurycea nana* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6374	Threatened
Texas Blind Salamander *Eurycea rathbuni*	Endangered

NAME	STATUS

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5130

FISHES

NAME	STATUS
Fountain Darter *Etheostoma fonticola*	Endangered

There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5858

CLAMS

NAME	STATUS
Balcones Spike *Fusconaia iheringi*	Endangered

Population:
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/10909

False Spike *Fusconaia mitchelli*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/3963

Guadalupe Fatmucket *Lampsilis bergmanni*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/10783

Guadalupe Orb *Cyclonaias necki*	Endangered

Population:
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/10781

Texas Fatmucket *Lampsilis bracteata*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9041

Texas Fawnsfoot *Truncilla macrodon*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8965

Texas Heelsplitter *Potamilus amphichaenus*	Proposed Endangered

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/299

Texas Pimpleback *Cyclonaias petrina*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8966

INSECTS

NAME	STATUS
[no Common Name] Beetle *Rhadine exilis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6942	Endangered
[no Common Name] Beetle *Rhadine infernalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3804	Endangered
Coffin Cave Mold Beetle *Batrisodes texanus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6234	Endangered
Comal Springs Dryopid Beetle *Stygoparnus comalensis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7175	Endangered
Comal Springs Riffle Beetle *Heterelmis comalensis* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3403	Endangered
Helotes Mold Beetle *Batrisodes venyivi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1149	Endangered
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Tooth Cave Ground Beetle *Rhadine persephone* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5625	Endangered

ARACHNIDS

NAME	STATUS
Bone Cave Harvestman *Texella reyesi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5306	Endangered
Cokendolpher Cave Harvestman *Texella cokendolpheri* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/676	Endangered
Government Canyon Bat Cave Meshweaver *Cicurina vespera* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7037	Endangered
Government Canyon Bat Cave Spider *Tayshaneta microps* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/553	Endangered

NAME	STATUS
Madla Cave Meshweaver *Cicurina madla* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2467	Endangered
Robber Baron Cave Meshweaver *Cicurina baronia* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2361	Endangered
Tooth Cave Spider *Tayshaneta myopica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2360	Endangered

CRUSTACEANS

NAME	STATUS
Peck's Cave Amphipod *Stygobromus (=Stygonectes) pecki* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8575	Endangered

FLOWERING PLANTS

NAME	STATUS
Bracted Twistflower *Streptanthus bracteatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2856	Threatened
Sneed Pincushion Cactus *Coryphantha sneedii var. sneedii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4706	Endangered
Texas Prairie Dawn-flower *Hymenoxys texana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6471	Endangered
Texas Wild-rice *Zizania texana* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/805	Endangered

CRITICAL HABITATS

There are 7 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Cokendolpher Cave Harvestman *Texella cokendolpheri* https://ecos.fws.gov/ecp/species/676#crithab	Final
Comal Springs Riffle Beetle *Heterelmis comalensis* https://ecos.fws.gov/ecp/species/3403#crithab	Final

NAME	STATUS
Fountain Darter *Etheostoma fonticola* https://ecos.fws.gov/ecp/species/5858#crithab	Final
Jollyville Plateau Salamander *Eurycea tonkawae* https://ecos.fws.gov/ecp/species/3116#crithab	Final
Robber Baron Cave Meshweaver *Cicurina baronia* https://ecos.fws.gov/ecp/species/2361#crithab	Final
San Marcos Salamander *Eurycea nana* https://ecos.fws.gov/ecp/species/6374#crithab	Final
Texas Wild-rice *Zizania texana* https://ecos.fws.gov/ecp/species/805#crithab	Final

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

BALD & GOLDEN EAGLES INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the

Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

MIGRATORY BIRD INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*
Species profile: https://ecos.fws.gov/ecp/species/4469

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

FRESHWATER POND

- PAB4Fx
- PAB3H
- PAB4Kx
- PAB3Fx
- PAB4/EM1F
- PAB3/EM1Fh
- PAB/UBFx
- PAB4F
- PAB3Fh
- PABFx
- PAB4Hx
- PAB3Hx
- PAB4Hh
- PAB4/FO1F
- PAB3/EM1Fx
- PAB3F
- PABF
- PAB3/EM1F
- PAB4Fh
- PABHx
- PABFh
- PAB4H

FRESHWATER EMERGENT WETLAND

- PEM1/UBF

- PEM1/AB4Fx
- PEM1/FO1Cx
- PEM1/AB3Fx
- PEM1/SS1Cx
- PEM1/SS1Ch
- PEM1/SS1A
- PEM1/FO1C
- PEM1/ABFx
- PEM1/SS1Ah
- PEM1A
- PEM1/FO1Ch
- PEM1/FO1A
- PEM1/UBFx

LAKE

- L2AB3Hx
- L2USCx
- L1UBHx
- L1UBH
- L2USKx
- L2USCh
- L
- L1UBHh
- L1UBKx
- L2UBHx
- L2ABHx
- L2USAh
- L2USK

ESTUARINE AND MARINE WETLAND

- E2USPs
- E2EM1N
- E2USP
- E2EM1P
- E2USM
- E2EM1Ps
- E2USN
- E2EM1Px

ESTUARINE AND MARINE DEEPWATER

- E1UBLx
- E1UBL

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Theodore Reese
Address: 545 Brent Lane
City: Pensacola
State: FL
Zip: 32504
Email treese@esassoc.com
Phone: 8504284687

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1505 Ferguson Lane
Austin TX, 78754

June 17, 2025

Chris Hurst
Environmental Protection Specialist
General Aviation and Commercial Branch (AFS-752)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

In reply refer to: 2025-0108224

Dear Mr. Hurst,

The U.S. Fish and Wildlife Service (Service) received your letter on June 11, 2025, in which the Federal Aviation Administration (FAA) proposes authorizing commercial package delivery using unmanned aircraft systems (drones) from multiple locations in Texas. The FAA has requested concurrence from the Service, in compliance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.; ESA), that the proposed action may affect, but is not likely to adversely affect, six federally listed species within the Austin Ecological Services Field Office's (ESFO's) jurisdiction.

Section 7 of the ESA requires that all Federal agencies consult with the Service to ensure that the actions authorized, funded, or carried out by such agencies do not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat of such species. For proposed species and critical habitat, the ESA requires a Federal agency to conference if their action is likely to jeopardize a species proposed for listing or that is likely to destroy or adversely modify critical habitats proposed for designation (ESA 7(a)(4)). Recommendations resulting from that conference are advisory (i.e., they are not required) because the species or critical habitat is the subject of a proposed rule and the prohibition against jeopardy and adverse modification under ESA section 7(a)(2) only applies to listed species and critical habitat designations.

Description of the Proposed Action

A detailed description of the proposed action is included in the ESA section 7 consultation request letter regarding drone commercial package delivery operations we received on June 11, 2025. In summary, the proposed action is the FAA's authorizing of Amazon Prime Air (Prime Air) to conduct commercial drone package delivery operations from its 22 Prime Air Drone Delivery Centers (PADDCs) located throughout Texas. Prime Air is seeking authorization to conduct commercial package deliveries using drones throughout the state of Texas. Prime Air intends to introduce its drone delivery capabilities in 2025 and has requested the FAA to authorize the operation of its MK30 drone (an electric, battery-powered, multicopter, fixed-wing, tail-sitter drone with six propulsors allowing it to take-off and land vertically and equipped with

collision avoidance technology and weighing approximately 78 pounds), so it can provide drone package delivery services across its operating area that includes eight operational flight space areas bounded by a 7.5-mile radius centered around each PADDC (collectively, the action area) within the Austin ESFO's area of responsibility.

Prime Air anticipates deploying up to approximately 1,000 MK30 drone flights per day from each of the 22 PADDCs, with each flight taking a package to a customer delivery address before returning to the PADDC. The number of actual flights per day would vary based on customer demand while Prime Air takes an incremental approach intended to meet consumer demand expected to increase gradually over time up to approximately 1,000 flights per day per PADDC. Depending on daily weather conditions, drone flights could be conducted up to 365 days a year, between 7 A.M. and 10 P.M.

According to the Service's Information for Planning and Consultation online project planning tool and the FAA's determination, eight threatened or endangered species may be affected, but are not likely to be adversely affected, by the commercial drone delivery operations; however, two of these (piping plover [*Charadrius melodus*] and rufa red knot [*Calidris canutus rufa*]) would only be of concern if the project was a wind energy project. Therefore, this consultation only covers one proposed species and five threatened or endangered species that may potentially be affected by the proposed project: tricolored bat (*Perimyotis subflavus*), golden-cheeked warbler (*Setophaga chrysoparia*), whooping crane (*Grus americana*), Southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), and Northern aplomado falcon (*Falco femoralis septentrionalis*). No designated critical habitat for any proposed or listed species occurs within or near the action area.

Flight operations between the PADDCs and delivery locations would take place over medium- to high-density urban and commercial developed areas, with some rural and agricultural areas interspersed throughout the action area. No impacts to waterbodies, wetlands, wildlife habitat, or fisheries are expected to occur. The drones' flight altitudes would occur at elevations significantly above typical tree heights while en route which could potentially result in brief exposure to visual or noise disturbance to a flying individual of proposed or listed species. Potential impacts to proposed or listed species could result from disturbances related to drone noise, visual presence, and the potential risk of airborne strikes with flying species. Given the estimated sound exposure levels of the drone, the drones' generally linear flight profiles, the brief duration of time that a drone would pass nearby any individual's location, and the low probability of physical strike to any given individual species within the action area, we do not expect Prime Air drone operations to adversely affect any of the six species. Any effects from the proposed drone delivery operations within the action area would be discountable (i.e., extremely unlikely to occur) or insignificant (i.e., not able to be meaningfully measured, detected, or evaluated). Therefore, we concur with FAA's determination that the proposed project may affect, but is not likely to adversely affect any of the six species that are the subject of this consultation.

This concludes consultation. As stated at 50 CFR §402.16, reinitiation of consultation is required and shall be requested by the FAA or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law if: 1) the identified action is

subsequently modified in a manner that causes an effect on a listed species or designated critical habitat; 2) new information reveals the identified action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; or 3) a new species is listed or critical habitat is designated under the ESA that may be affected by the identified action. If you require further assistance or have any questions related to this consultation, please contact Aaron Conti at aaron_conti@fws.gov

Sincerely,

MICHAEL WARRINER Digitally signed by MICHAEL WARRINER
Date: 2025.06.17 09:34:05 -05'00'

Michael Warriner
Acting Project Leader

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Texas Coastal and Central Plains Ecological Services Field Office
Fort Worth Sub-office
3233 Curtis Drive
Fort Worth, Texas 76116
(817) 277-1100

In Reply Refer To:
2025-0097332

July 2, 2025

Joseph K. Hemler, Jr.
Federal Aviation Administration
Manager, AFS-752
800 Independence Avenue, SW.
Washington, DC 20591

RE: Endangered Species Act Section 7 Consultation for Drone Commercial Package Delivery Operations in Texas.

Dear Mr. Hemler,

This responds to the Federal Aviation Administration's (FAA) June 11, 2025, letter requesting consultation pursuant to Section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531-1544) (Act). Your letter includes a biological evaluation of the proposed action of authorizing Amazon Prime Air (Prime Air) to conduct commercial drone package delivery operations from 22 Prime Air Drone Delivery Centers (PADDCs) located throughout Texas. Our comments pertain to the portion of the project that would be located in the Fort Worth Sub-office's area of responsibility, which would be the PADDCs located in Collin, Dallas, Denton, and Tarrant Counties.

The purpose of the proposed action is to "to conduct commercial package deliveries using drones throughout the state of Texas." Prime Air anticipates flying up to 1,000 MK30 drone flights per operating day from each of the 22 PADDCs, with each flight taking a package to a customer delivery address before returning to the PADDC. The number of flights per day would vary based on customer demand and weather conditions. Drone flights could be conducted up to 365 days a year between 7 A.M. and 10 P.M. Flight operations would take place mostly in an urban environment, within airspace, and typically remain well above the tree line while en route to and from the PADDC. Acoustical data and a noise analysis was included with your letter, and the SELs (Sound Exposure Levels) were calculated for four specific activities:

• The drone taking off from the PADDC (includes transition between vertical and horizontal flight);

• En route travel of the drone in horizontal flight between the PADDC and the delivery point;

• Delivery;

• The drone landing at the PADDC (includes transition between vertical and horizontal flight).

Your letter concluded that the highest estimated SEL associated with Prime Air's proposed operations is 92.1 dB, which would occur during a delivery. For reference, "the sound level of a diesel truck at 50 feet or a noisy urban environment during the day is approximately 80 to 90 dB. The SEL on the ground when the drone is at an altitude of 200 feet AGL is estimated to be around 63.7 dB, which is comparable to the sound of an air conditioning unit at 100 feet (60 dB)." Additionally, the MK30 drone is expected to operate at altitudes higher than 200 feet AGL during en route flight; as such, the en route sound level is expected to be less than 63.7 dB.

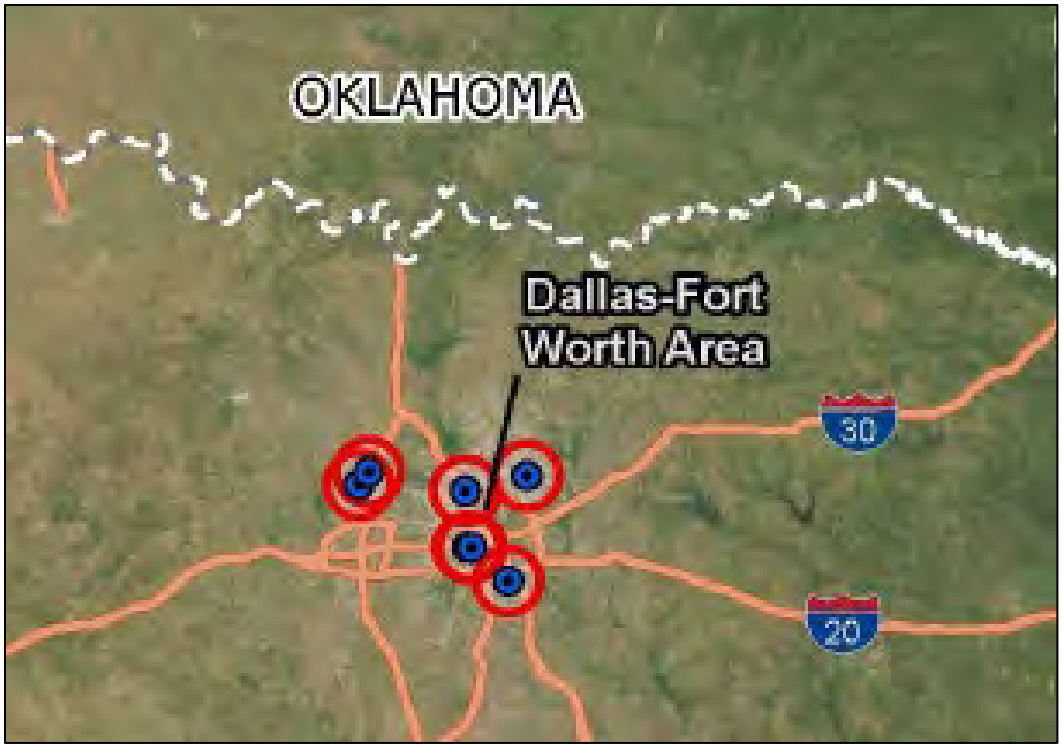

Figure 1. Action area within the Fort Worth Sub-office's area of responsibility.

According to the Service's Information for Planning and Consultation online project planning tool and the FAA's evaluation, there are three threatened, endangered, or proposed species that may potentially be affected by the proposed project and occur within the action area that is the subject of this consultation (Figure 1): proposed endangered tricolored bat (*Perimyotis subflavus*), endangered golden-cheeked warbler (*Setophaga chrysoparia*), and endangered whooping crane (*Grus americana*). No designated critical habitat for any proposed or listed species occurs within or near the action area. Proposed species are not currently protected under the Act; however, conferencing is necessary if it is determined a federal action is likely to jeopardize the continued existence of a proposed species. Your biological evaluation does not indicate the need for conference on the proposed species.

The golden-cheeked warbler is a small, insectivorous neo-tropical songbird. The breeding range for the species encompasses 35 counties in Texas, with Dallas and Johnson Counties as the only counties in the Action Area. A small number of golden-cheeked warblers have been reported during the breeding season in 2023 in Dallas County. Golden-cheeked warblers breed exclusively in the mixed Ashe juniper/deciduous woodlands. These songbirds require the shredding bark produced by mature Ashe junipers (*Juniperus ashei*) for nest material. Your letter states that the action area is largely located within an urban area with no disturbance anticipated to oak woodlands; thus, the FAA has determined that the proposed action is *not likely to adversely affect* the golden-cheeked warbler.

Whooping cranes currently exist in three wild populations and in captivity at 12 sites. There is only one self-sustaining wild population, the Aransas-Wood Buffalo National Park population, which nests in Wood Buffalo National Park and adjacent areas in Canada, and winters in coastal marshes in Texas. The migratory corridor runs in an approximately straight line from northwest Canada through the Great Plains to overwinter on the Gulf Coast. The whooping crane breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Whooping cranes could be encountered at suitable stopover sites within the corridor during spring and fall migration. Although whooping crane migratory flights are generally at altitudes of between 1,000 and 6,000 feet, they fly at lower altitudes when seeking stop-over habitats such as reservoirs, large ponds, rivers, and wetlands. While cranes generally avoid areas with human activity present (e.g., roads, neighborhoods, etc.), suitable stopover habitat for the species may be present in the proposed project areas. The FAA has determined that the proposed action is *not likely to adversely affect* the whooping crane, based on: 1) operations occurring mostly in an urban environment, 2) the altitude at which the drone flies in the en route phase (180–377 feet AGL), 3) the expected low sound levels experienced by a whooping crane, 4) any increase in ambient sound levels would be short in duration, 5) the low probability of a whooping crane occurring in the action area, and 6) the low likelihood of the drone striking a whooping crane; therefore, any effects would be discountable (extremely unlikely to occur) or insignificant (not able to be meaningfully measured, detected, or evaluated).

Lastly, your letter acknowledges the limited information related to the potential effects of the emerging use of drones for widespread package delivery across the Nation. As with any new technology, it is important to understand and continue to evaluate potential impacts on fish and wildlife resources. For this reason, Prime Air has proposed to implement a biological monitoring program associated with this project to study potential impacts drone flights may have on wildlife and report the findings annually. We believe this is an important approach and recommend that the program be developed in coordination with other partners, including academic researchers, in order to obtain the best information possible. We look forward to seeing the results of the program.

Based on the information provided within your letter, we concur with the determination that the project, as proposed, may affect, but is not likely to adversely affect the golden-cheeked warbler and whooping crane within the action area subject to this consultation. Therefore, no further

Section 7 consultation will be required unless: 1) the identified action is subsequently modified in a manner that causes an effect on a listed species or designated critical habitat; 2) new information reveals the identified action may affect federally listed species or designated critical habitat in a manner or to an extent not previously considered; or 3) a new species is listed or a critical habitat is designated under the Act that may be affected by the identified action. If new effects are identified in the future, Section 7 consultation may need to be reinitiated.

Please note that this guidance does not authorize bird mortality for species that are protected under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. sec.703-712). If you believe migratory birds will be affected by this activity, we recommend you contact our Migratory Bird Permit Office at P.O. Box 709, Albuquerque, NM 87103, (505) 248-7882.

Thank you for the opportunity to review and provide information on the proposed project. If you have any questions, please contact Ms. Sydney Dragon-Moore of my staff at sydney_dragon-moore@fws.gov.

Sincerely,

OMAR BOCANEGRA Digitally signed by OMAR BOCANEGRA Date: 2025.07.02 12:49:03 -05'00'

Omar Bocanegra
Deputy Field Supervisor

CC: David Hoth, USFWS
Christina Williams, USFWS
Chris Hurst, FAA

Appendix C
Section 4(f) Resources

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
1849 Park	City of Pflugerville	16430 Cameron Road	AUS2, STX6, STX9
57-Acre Park	City of Kemah	Park Oaks Street	STX4
Adam Orgain	City of Hutto	1001 County Road 137	AUS2, STX6
Adams Street Park	City of Wilmer	Intersection of Adams Street and Hart Street	IAH1
Agnes Moffitt Park	City of Houston	10645 Hammerly Boulevard	STX5
Akard	City of Dallas	Akard and Bullington St.	DAL3, STX3
Alabonson Park	City of Houston	9650 N. Houston Rosslyn Rd.	STX5, HOU2
Alamo Heights Little Leagu	City of Alamo Heights	50 Alamo Heights Blvd	STX7, STX7
Alamo Plaza Park	City of San Antonio	200 Alamo Plaza	SAT1x, STX7
Alderbrook Pocket Park	City of Austin	12444 Lamplight Village Ave	AUS2, STX6
Aldine Village Park	Harris County	642 Corvette Ln	HOU2
Alexander	City of Duncanville	715 S Alexander Ave,	STX3
Alexandra Flores Park	City of San Elizario	13665 Socorro Rd	ELP1
ALIEF AMITY PARK	Harris County	12509 Alief Clodine Road	HOU6
Allen Bates River Park	City of Martindale	405 FM 1979	SAT2
Allen Park	Travis County	6413 Westside Drive	STX9
Allen Road Park	City of Coppell	400 N MacArthur Boulevard	STX2
Alliance Park	City of Fort Worth	3800 Litsey Rd	FTW4
Almsbury Park	City of Lewisville	2345 Almsbury Ln	STX2
Alta Mesa	City of Dallas	2905 Alta Mesa	IAH1
Alta Vista Park	City of Waco	3709 Alta Vista Dr	AUS3
American Legion Park	City of Houston	3621 Golf Drive	STX5
American Legion Park	City of Missouri, TX	4015 Lexington Blvd	SAHx, STX5
Amistad Park	City of Socorro	11540 Valle Palomar Rd	ELP1
Andrew Brown Park Central	City of Coppell	364 N Denton Tap Road	STX2
Andrew Brown Park East	City of Coppell	260 E Parkway Boulevard	STX2, STX2
Andrew Brown Park West	City of Coppell	363 North Denton Tap Road	STX2
Anita Harris Phelps	City of Dallas	200 Cedar Springs	DAL3, STX3
Anita Reyes Park	City of San Marcos	115 Lockwood Dr.	SAT2
Anton Schumann Park	City of Converse	10565 Old Cimarron Trail	STX7
Arbor Green	City of El Paso	3127 Manny Aguilera	ELP1
Arcadia	City of Dallas	5516 Arcadia Dr.	DAL3, STX3
Arcadia Heights	City of Dallas	1001 Counts Blvd.	DAL3, STX3
Arcadia Trail Park	City of Fort Worth	7613 Arcadia Trail	DFW7
Arcadia Trail Park North	City of Fort Worth	8744 Arcadia Park Dr	DFW7, FTW4

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Archbishop Joseph Fiorenza Park East	Harris County	4025 Eldridge Pkwy	HOU6
Archbishop Joseph Fiorenza Park North	Harris County	13551 Westpark Drive	HOU6
Arden Terrace	City of Dallas	1200 E Pentagon Pkwy.	IAH1
Argal Park	City of El Paso	1351 Pendale	ELP1
Arkansas Bend Park	Travis County	16900 Cherry Lane	STX9
Arlington	City of Dallas	1505 Record Crossing	DAL3, STX3
Armand Bayou Nature Center	Harris County	8500 Bay Area Blvd.	STX4
Armand Bayou Park	Harris County	4300 Bay Area Blvd.	STX4
Armstrong	City of Duncanville	100 James Collins Blvd	STX3
ARON LEDET PARK (PB 2)	City of Houston	6323 Antoine	HOU2
Auburn Park	City of Terrell Hills	Auburn and Morningside	STX7
Autumn Sunset Park	City of Windcrest	Eagle Crest Boulevard and Windrock Drive	STX7
Aviator's Park	City of El Paso	12665 Mary Ponce Rd.	ELP1
Babbling Brook Park	City of Fort Worth	11716 Babbling Brook Dr	FTW4
Bachman Creek Greenbelt	City of Dallas	3900 Shorecrest Dr.	STX2
Bachman Lake	City of Dallas	3500 Northwest Hwy.	DAL3, STX2, STX3
BAKER ROAD POCKET PARK HIKE & BIKE TRAIL	Harris County	368 Baker Road	HOU6
Balcones District Park	City of Austin	12017 Amherst Drive	AUS2, STX6
Bane Park	City of Houston	9600 W. Little York Rd.	STX5
Barbara Drive Park	City of San Antonio	210 Barbara Drive	STX7
Bark Park	City of Pflugerville	19417 Murchison Ridge Trail	AUS2, STX6, STX9
Barkley Meadows	Travis County	4529 S SH 130 SVRD NB	STX9
Barksdale Park	City of Fort Worth	9611 Barksdale Dr	DFW7, FTW4
Barry Annino Bark Park / Bark Park Central	City of Dallas	2445 Canton St.	DAL3, STX3
Barry H. Barker	City of Dallas	3721 Briargrove	STX2
Bates Street Park	City of Keller	133 Bates St	DFW7
Bauer Pocket Park	City of Houston	2201 Bauer Dr.	STX5
Bay Area Park	Harris County	7500 Bay Area Blvd.	STX4
Bayou Bend Park	City of Deer Park	4200 Kalwick Dr.	STX4
Bear Creek	City of Grand Prairie	3420 E Gilbert Circle	DAL3
Bear Creek Nature Park	City of Lancaster	1000 Bear Creek Road	IAH1
Bear Creek Park	City of Keller	400 Bear Creek Park Rd	DFW7, FTW4
Bear Creek Pioneers Park	City of Houston	3535 War Memorial Dr.	STX5
Beckley Heights	City of Dallas	6700 Starkey	DAL3, IAH1, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Beckley Saner	City of Dallas	114 West Hobson	DAL3, IAH1, STX3
Beitel Creek Greenway	City of San Antonio	5132 Wurzbach Parkway	SAT1x, STX7
Bell Farms Park	City of Manor	12905 Ring Drive	AUS2, STX9
Bell Farms Pond	City of Manor	12633 Bella Parkway	AUS2, STX9
Bellingham Meadows Greenbelt	City of Austin	7601 E Parmer Lane	AUS2
Bell's Hill Park	City of Waco	2400 Webster Ave	AUS3
Belmeade Park	City of San Antonio	208 W Hathaway Dr	SAT1x, SAT3, STX7
Belo Garden / Civic Garden	City of Dallas	1014 Main St.	DAL3, STX3
Ben E. Fisher Park	Travis County	600 W. Carrie Manor St.	AUS2, STX9
Bendwood Park	City of Houston	12700 Kimberly Lane	STX5
Benito Juarez	City of Dallas	3352 North Winnetka	DAL3, STX3
Bent Tree Meadow	City of Dallas	4302 Creekmeadow Drive	STX2
Bentwood	City of Dallas	6011 Bentwood Trail	STX2
Berkley V. and Vincent M. Dawson Park	City of San Antonio	803 N Cherry	SAT1x, STX7
Bernal Greenbelt	City of Dallas	3600 Bernal St.	DAL3, STX3
Bert Fields	City of Dallas	14200 Hughes	STX2
Betty Jane Lane	City of Dallas	10235 Betty Jane Lane	STX2
Betty Marcus / Shirley and Bill McIntyre	City of Dallas	Flora and Pearl Streets	DAL3, STX3
Beverly Hills	City of Dallas	3415 West Sheldon Ave.	DAL3, STX3, DAL3, STX3
Bicentennial Park	City of Missouri, TX	0	SAHx, SAT2
Bicentennial Park	City of San Marcos	209 S CM Allen Parkway	SAT2
Bickers	City of Dallas	1400 Bickers	DAL3, STX3
Big Bear Creek Green Belt Trl	City of Keller	265 Golden Triangle Boulevard	FTW4
Big Bear Creek Greenbelt	City of Keller	333 S Elm St	DFW7
Billy Blake Park	City of Alamo Heights	50 Alamo Heights Blvd	STX7, STX7
Bird's Fort Trail Park	City of Irving	5756 Riverside Drive	STX2
Bishop Flores	City of Dallas	2200 Talleyho	DAL3, STX3
Bishop Park	City of Justin	Wallace Dr. and Wilkerson Ln.	DFW7, FTW4
Black Locust Park	City of Pflugerville	608 Black Locust Drive West	AUS2, STX6, STX9
Blackie Chesher	City of El Paso	9143 Escobar Dr/1100 N Zaragoza	ELP1
Blackie Chesher - Flat Fields	City of El Paso / PSB	9143 Escobar Dr	ELP1
Blanco Shoals Natural Area	City of San Marcos	Blanco River and IH-35	SAT2
Bledsoe-Miller Park	City of Waco	300 N MLK Jr. Blvd	AUS3
Blue Bird	City of Dallas	4139 Red Bird Lane	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Blue Grass Lawn Park	City of San Antonio	203 Carnahan St	SAT1x, SAT3, STX7
Bob Wentz Park	Travis County	7144 Comanche Trail	STX9
Bohls Crossing	City of Pflugerville	E Pecan Street and Plumbago Drive	AUS2, STX6, STX9
Bohls Park	City of Pflugerville	200 Immanuel Road	AUS2, STX6, STX9
Bohls Place Greenbelt	City of Pflugerville	1411 Sweet William Lane	AUS2, STX6, STX9
Bonnie View	City of Dallas	2100 Huntingdon	DAL3, IAH1, STX3
Bordersville Park	Houston	19626 Carver Road	SAH1
Boren- Hilseweck	City of Dallas	2700-2900 Van Cleave	IAH1, STX3
Boren-Hilseweck	City of Dallas	2700-2900 Van Cleave	IAH1, STX3
Botanical Garden	City of San Antonio	555 Funston Place	SAT1x, SAT3, STX7
Boulder	City of Dallas	3200 Red Bird Lane	DAL3, IAH1, STX3
Bowles	City of Grand Prairie	2714 Graham St	DAL3, STX3
Bowles Park	City of Grand Prairie	2714 Graham St	DAL3, STX3
Bowman Park	City of Round Rock	950 East Bowman Road	STX6
Brackenridge Park	City of San Antonio	3700 N St Marys St	SAT1x, SAT3, STX7
Brackenridge Park Golf Course	City of San Antonio	2315 Avenue B	SAT1x, STX7
Bradford Park	City of Round Rock	2516 Andres Way	AUS2, STX6
Bradshaw	City of Grand Prairie	2941 SE 14th St	DAL3, STX3
Bradshaw Park	City of Grand Prairie	2941 SE 14th St	DAL3, STX3
Branch Hollow Park	City of Carrollton	2050 E. Branch Hollow	STX2
Brandon Park	City of San Antonio	Brandon Dr and W Hathaway Dr	SAT3
Brazos Park East	City of Waco	3516 N MLK Jr. Blvd	AUS3
Brazos River Park	City of Sugar Land	18427 Southwest Freeway	HOU6
Bretshire Park	Harris County Precinct 2	Foy Ln & Marzelle St	HOU2
Briar Gate	City of Dallas	3100 Westmorland Rd.	DAL3, STX3
Bridgeview Park	City of Fort Worth	11224 Guinness Dr	FTW4
Brook Falls Park	City of Windcrest	6309 Windrock Drive	STX7
Brookhaven College Trail	City of Farmers Branch	3939 Valley View Lane	STX2
Brooklyn Park	City of Waco	1300 Orchard Land	AUS3
Brooks Park	City of San Antonio	3902 Global Way	SAT3
Browder St. Mall	City of Dallas	200 Block Browder	DAL3, STX3
Brownie Neighborhood Park	City of Austin	10000 Brownie Drive	AUS2
Brownwood	City of Dallas	3400 Walnut Hill Lane	STX2
Buck Egger Park	City of Round Rock	900 South Mays Street	AUS2, STX6
Buckboard Park	North Houston District	70 Buckboard Drive	HOU2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Buffalo Run Park	City of Missouri, TX	0	SAHx
Bulldog Park	City of Socorro	316 Buford Rd	ELP1
Bulova/Homecoming Cemetery	City of Dallas	5119 Bulova	IAH1
Burke Crenshaw Park	Harris County	4950 Burke Rd.	STX4
Burning Mesquite Park	City of El Paso	12547 Cevallia Ave.	ELP1
Bushman	City of Dallas	2800 Linifield Rd.	STX3
Bushman	City of Dallas	2871 Linfield Road	IAH1
Cadillac Heights	City of Dallas	2500 Morrell Ave	DAL3, STX3
Calaveras Lake Park	City of San Antonio	12991 Bernhardt Rd	SAT3
Calaveras Park	City of San Antonio	10283 New Sulphur Springs Rd	SAT1x, SAT3
California Crossing	City of Dallas	1400 California Crossing Road	STX2
California Crossing Park	City of Irving	5198 Riverside Drive	DAL3, STX2
Callisto Park	City of Socorro	1034 Callisto Ct	ELP1
Cambridge Estates Linear Park	City of Pflugerville	Windsor Hill Drive	AUS2, STX6, STX9
Cambridge Estates Park North	City of Pflugerville	Botany Bay Circle	AUS2, STX6, STX9
Cambridge Estates Park South	City of Pflugerville	Mountain Creek East Subdivision	AUS2, STX6, STX9
Cambridge Heights Park	City of Pflugerville	17500 Marfa lights Trail	AUS2, STX6, STX9
Camelot Elementary School Park	City of San Antonio	5311 Merlin Dr	SAT1x, SAT3, STX7
Cameron Park	City of Waco	2601 N University Parks Dr	AUS3
Camino South Park	City of Clear Lake	16445 Shell Lake Dr.	STX4
Camp Worth Park	City of Fort Worth	4896 Bob Wills Dr	DFW7, FTW4
Campbell Green	City of Dallas	16600 Hillcrest	STX2
Campbell Park	City of Hutchins	200 South Denton Street	IAH1
Campion Trail	City of Irving	Campion Trail/Trinity River	STX2
CANDLELIGHT PARK	City of Houston	1520 Candlelight	HOU2, STX5
Cannon Parkway Park	City of Roanoke	750 Cannon Parkway	DFW7, FTW4
CANYON CREEK PARK	Ponderosa Forest Maintenance Association	17919 Canyon Creek Rd	HOU2
Canyon Falls	Town of Flower Mound	6425 Stonecrest Road	FTW4
Canyon Ridge Pocket Park	City of Austin	107 1/2 Canyon Ridge Drive	AUS2, STX6
Capistrano	City of El Paso / PSB	8700 Padilla Dr	ELP1
Caribe	City of El Paso	250 Cayman Ln	ELP1
Carleen Bright Arboretum	City of Woodway	9001 Bosque Blvd	AUS3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Carlos Bombach	City of El Paso	12420 Nina Pearl	ELP1
Carol Fox Park	City of Jersey Village	15913 Jersey Drive	STX5
Carriage Hills Park	City of Manor	Carriage Hills Drive	STX9
Carver Library Park	City of San Antonio	3350 E Commerce St	SAT1x, SAT3, STX7
Castle Park	City of Lewisville	2504 Sir Turquin Ln	STX2
Cedar Crest Golf Course	City of Dallas	1800 Southerlands	DAL3, STX3
Cedar Elm Park	City of Carrollton	3845 Menard Drive	STX2
Cedardale Park & Complex	City of Lancaster	1930 Cedardale Road	IAH1
Celebration of Life	City of Dallas	600 Pearl St.	DAL3, STX3
Centennial Park	City of Irving	444 W. Second St.	DAL3, STX3
CENTRAL GREEN PARK	Willow Fork Drainage District	Commercial Center Blvd	HOU6
Central Park	City of Lewisville	1899 S. Edmonds	STX2
Central Park at Flacon Point	City of Pflugerville	18720 Falcon Pointe Blvd	AUS2, STX6, STX9
Central Square	City of Dallas	3000 Swiss Ave.	DAL3, STX3
Chadwick Farms	City of Fort Worth	15700 Cleveland Gibbs Road	DFW7, FTW4
Chalk Hill Trail	City of Dallas	Chalk Hill Road and Davis St.	DAL3, STX3
Challenger 7 Memorial Park	City of Webster	2301 W Nasa Blvd	STX4
Champions Park	City of Irving	455 Cowboys Parkway	STX2
Chapel Park	City of Waco	9420 Chapel Road	AUS3
Charley Taylor	City of Grand Prairie	601 E Grand Prairie Rd	DAL3, STX3
Charley Taylor Park	City of Grand Prairie	601 E Grand Prairie Rd	DAL3, STX3
Chase Oaks Activity Node	City of Keller	1609 Chase Oaks Dr	DFW7
Chayo Apodaca Youth Center	City of Socorro	341 N Moon Rd	ELP1, ELP1
Cherry Grove	City of Keller	416 Keller Smithfield Rd	DFW7
Cherry Street Pocket Park	City of San Antonio	601 Claude W Black	SAT1x, SAT3, STX7
Cherrywood	City of Dallas	5400 Cedar Springs	DAL3, STX3
Chester Jordan	City of El Paso	3500 Nolan Richardson	ELP1
Children's Park	City of San Marcos	205 S CM Allen Parkway	SAT2
Chisholm Ridge Park	City of Fort Worth	8425 Ladina Pl.	DFW7
Chisholm Trail Crossing Park	City of Round Rock	500 Chisholm Trail	STX6
Chisholm Valley Park	City of Round Rock	1201 Trey	AUS2, STX6
Chris Paris	City of Duncanville	1300 Caravan Trail	STX3, DAL3
Chris Paris Park	City of Duncanville	1300 Caravan Trail	STX3, DAL3
Churchill	City of Dallas	7025 Churchill Way	STX2
Cielo Del Rio Park	City of Socorro	11151 Ida Coldwell Ln	ELP1
Cien Park	City of Kemah	Cien Rd.	STX4

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Cimarron Park	City of Irving	201 Red River Trail	STX2
Cimarron Park and Clubhouse	City of Universal City	368 Wagon Crossing	STX7
Circle Park	City of Shoreacres	Shadylawn Ave.	STX4
City (Paupers) Cemetery	City of Dallas	10606 Shady Trail	STX2
CITY HALL PARK	City of Richmond	402 Morton Street	HOU6
City Hall Plaza	City of Dallas	1500 Marilla St.	DAL3, STX3
City Park	City of Beverly Hills	4801 Inwood Drive	AUS3
City Park	City of Converse	307 School Street	STX7
City Park	City of Lancaster	211 W. Belt Line Road	IAH1
City Park	City of San Marcos	170 Charles Austin Drive	SAT2
City Park	City of Sugar Land	225 7th Street	HOU6
City Park & Jim Cooper Meeting Room	City of Sugarland	225 7Th St	SAHx
City Park (Old City Park)	City of Dallas	1515 S. Harwood St. / 1717 Gano St.	DAL3, STX3
City Square	City of Carrollton	1103 W Main St	STX2
CITY VIEW PARK	North Houston District	16822 CityView Place	HOU2
Clark Henry Park	City of Jersey Village	7804 Equador Street	STX5
CLARK PARK	City of Houston	9718 Clark	HOU2
Clay Madsen Park	City of Round Rock	1600 Gattis School Road	AUS2, STX6
CLAY PARK	City of Richmond	400 Riveredge Drive	HOU6
Clear Lake City Recreation Center Park	City of Clear Lake	Diana Ln. and Ramada Dr.	STX4
Clear Lake Park	Harris County	5001 Nasa Pkwy	STX4
Clifford E. "Bill" Hall Park	City of Carrollton	2200 Crater Lake Court	STX2
Clint Veterans Park	City of El Paso	101-199 FM1110	ELP1
Clover Lawn Park	City of San Antonio	300 Catalpa Ave	SAT1x, SAT3, STX7
Cole	City of Dallas	4000 Cole	STX3
COLE CREEK PARK	City of Houston	7199 Drowsy Pine Drive	HOU2, STX5
Coliseum Oaks Park	City of San Antonio	101 Ambrosia	SAT1x, SAT3, STX7
College	City of Dallas	3300 Highland Woods	IAH1
COLLINS PARK	Harris County Precint 3	6727 Cypresswood Dr	HOU2
Colony Bend Park	City of Sugarland	2806 Planters St	SAHx
Comanche	Bexar County	2600 Rigsby, San Antonio, TX 78222	SAT1x, SAT1x
Comanche Country Park	City of San Antonio	2600 Rigsby	STX7, SAT1x, SAT3, STX7
Comanche County Park	City of San Antonio	2600 Rigsby	STX7, SAT1x, SAT3, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Comanche Park/Covington Park	Bexar County	2600 Rigsby Avenue	STX7
Commanders House Park	City of San Antonio	622 S Flores St	STX7
Community Park	City of Lancaster	2000 N. Dallas Avenue	IAH1, SAHx
Community Pool	City of Trophy Club	500 Parkview Drive	FTW4
Community Recreation Center	City of Farmers Branch	14050 Heartside Pl	STX2
Congressman Bill Archer Park	City of Houston	3201 State Highway 6 North	STX5
Connor Park	Town of Highland Park	4301 St. Johns Drive	STX3
Converse City Park	City of Converse	307 School St	SAT3
Converse North Park	City of Converse	8200 Spring Town St	SAT3
Conway Park	City of San Marcos	504 Bliss Lane	SAT2
Cook School Park	City of Austin	1505 Cripple Creek Drive	AUS2
Coombs Creek Greenbelt	City of Dallas	2100 Coombs Creek Rd.	DAL3, STX3
COOPER ROAD PARK	City of Houston	200 Cooper Road	HOU2
Copernicus Park	City of San Antonio	5003 Lord Rd	SAT1x, SAT3, STX7
Coppell Nature Park	City of Coppell	345 Freeport Parkway	STX2, STX2
Copperfield Neighborhood Park	City of Austin	1425 E Yager Lane	AUS2, STX6
Copperfield NP	City of Austin	1425 E Yager Lane	AUS2, STX6
Cotton Palace Park	City of Waco	1300 Clay Ave	AUS3
Cottonwood Creek	City of Irving	4051 N. Story Road	STX2
Cottonwood Creek Golf Course	City of Waco	5201 Bagby Avenbue	AUS3
Cottonwood Creek Preserve	Dallas County	Farm Road	IAH1
Cottonwood Valley Park	City of Wilmer	871 Cottonwood Valley Road	IAH1
Cougar Park	City of Socorro	10664 Socorro Rd	ELP1
Council Acres Park	City of Waco	1500 Bagby Ave	AUS3
Country Acres Park	City of Roanoke	365 Sheri Ln, Roanoke, TX 76262	FTW4
Coventry Hills Park	City of Fort Worth	8500 Western Meadows Dr.	DFW7
Covington	Bexar County	2600 Rigsby, San Antonio, TX 78222	SAT1x, SAT1x
COVINGTON WEST PARK	City of Sugar Land	13944 Oakwood Lane	HOU6, SAHx
Cox Lane	City of Dallas	3805 Royal Lane	STX2
Coyote Cave Park	City of El Paso	14337 Arabian Point Ave	ELP1
Coyote Park	City of El Paso	3117 Coyote Park Dr.	ELP1
Cpt. Paul Pena Park	City of San Marcos	1209 Crystal River Parkway	SAT2
Craddock	City of Dallas	4600 Lemmon	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Crawford Farms Park	City of Fort Worth	10425 Melrose Ln	DFW7, FTW4
Crawford Farms Park Trail	City of Fort Worth	4224 Wexford Dr	FTW4
Crawford Memorial	City of Dallas	8700 Elam Rd.	IAH1
CRAWFORD PARK	City of Richmond	100 Liberty Street	HOU6
Creek Pocket Park	City of Houston	1701 Creek Dr.	STX5
Creekside Park	City of Hutto	305 Orchard Way	STX6
Creekside Park	City of Pflugerville	418 Settlers Valley Drive	AUS2, STX6, STX9
Crestline	City of Dallas	12207 Crestline	STX2
Crestview Park	City of Waco	4725 Sanger Ave	AUS3
Crestwood Park	City of Terrell Hills	Crestwood and Seford	STX7
Crockett	City of Dallas	501 Carroll Ave.	STX3
Crockett Park	City of San Antonio	1300 N Main Ave	STX7
Croft Park (may also be named Furneaux Lane Park)	City of Carrollton	Furneaux Lane & Croft Road	STX2
Crosstimbers Ridge Conservation Area	City of Westlake	Solana Blvd, Westlake, TX 76262	FTW4
Crown	City of Dallas	2300 Crown Road	STX2
Cullinan Park At Oyster Creek	City of Houston	12414 Hwy 6	HOU6
Cullum Boulevard Medians	City of Dallas	Haskell Blvd to Second Ave / Scyene Rd	STX3
Cummings	City of Dallas	2900 Cummings	IAH1
Curtistene S. McCowan Park	City of DeSoto	1400 S Uhl Road	IAH1
Cypress Creek Park	Travis County	13601 Bullick Hollow Road	STX9
Dads Club Sports Complex	Harris County	14500 Village Evergreen Trail	STX4
Dafoste Park	City of San Antonio	210 Dafoste	SAT1x, SAT3, STX7
Dallas Zoo	City of Dallas	650 South R.L. Thornton Fwy	DAL3, STX3
Damsel Park	City of Lewisville	1213 Damsel Caitlyn Dr	STX2
Danieldale	City of Dallas	300 West Wheatland Road	IAH1
Davis Park	City of San Antonio	900 E Mulberry Ave	SAT1x, STX7
Davis Park	Town of Highland Park	4500 Drexel Avenue	STX3
Dawn View at Horizon	City of El Paso	14225 Earl Chokiski Ave.	ELP1
Dawson Park	City of San Antonio	2500 E Commerce St	SAT1x, SAT3, STX7
Dealey Plaza	City of Dallas	400 Main Street	DAL3, STX3
Deerpath	City of Dallas	1800 East Kiest Blvd.	DAL3, IAH1, STX3
Del Santer Park	City of Carrollton	3375 Mapleview Drive	STX2
Del Valle Sports Complex	Travis County	3614 FM 973	STX9
Dellcrest Park	City of San Antonio	1700 Diane Road	SAT1x, SAT3, STX7
Denton Creek Park	City of Coppell	W Denton Creek	STX2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Denver Heights Park	City of San Antonio	300 Porter St	SAT1x, SAT3, STX7
Derek Geter	City of Dallas	2322 Scotland	IAH1, STX3
Derrick L. Geter	City of Dallas	2322 Scotland	IAH1, STX3
Desert Garden Park	City of El Paso	3236 Perla Pointe Dr.	ELP1
Desmond Corcoran Park	City of Horizon City	Rodman St	ELP1
Devon-Anderson	City of Dallas	1717 Eastcliff Drive	IAH1
Devorsky Park	City of Bellmead	Parrish St and Elling Dr	AUS3
Dewey Park	City of Waco	925 N 9th St	AUS3
Dick Shinaut	City of El Paso	11701 Rufus Brijalba	ELP1
Dink Pearson Park	Travis County	3011 Lohman Ford Road	STX9
Dog Park	City of Jersey Village	8502A Rio Grande	STX5
Dog Park	City of Lewisville	1301 S. Railroad Street	STX2
Dog Park	City of San Marcos	250 Charles Austin Drive	SAT2
Don Pedro Huizar Park	City of San Antonio	500 E Cesar E Chavez Blvd	SAT1x, STX7
Don Showman Park & Trail	City of Farmers Branch	14032 Heartside Place	STX2
Dorado Park	City of Fort Worth	415 Baverton Ln	DFW7, FTW4
Dorie Miller Park	City of San Antonio	2802 Martin Luther King Dr	SAT1x, SAT3, STX7
Doris Berry	City of Dallas	3700 Cockrell Hill Rd.	DAL3, STX3
Doris Miller Memorial	City of Waco	300 N MLK Jr Blvd	AUS3
Dorris Park	City of Irving	Dorris Road	STX2
DOSS PARK	Harris County Precinct 2	2500 Frick Road	HOU2
DOW #1 PARK	Harris County Precinct 2	15401 Greendale Street	HOU2
DOW #2 PARK	Harris County Precinct 2	200 W Nellis Rd	HOU2
Dow Park	City of Deer Park	610 E. San Augustine St.	STX4
Dr. H.V. Copeland Home	City of Grand Prairie	125 SW Dallas St	DAL3, STX3
Dragon Park	City of Lewisville	2719 Merlin Dr	STX2
Dry Pond Park	City of Pflugerville	Villagers of Hidden Lake	AUS2, STX6, STX9
DUHACSEK PARK	City of Sugar Land	17034 Old Richmond Road	HOU6
Duke Cove Green Belt	City of Pflugerville	Duke Cove Cul-de-Sac	AUS2, STX6, STX9
Dunbar Park	City of San Marcos	801 W. MLK Dr	SAT2
Dunham Ranch Recreational Area	Town of Flower Mound	10300 Dunham Rd, Roanoke, TX	FTW4
DYLAN PARK	North Houston District	12351 Kuykendahl Road	HOU2, HOU2
E. Hampton Circle Parkland	City of Missouri, TX	0	SAHx

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
E. L. Williams	City of El Paso	752 Lafayette Dr.	ELP1
East Cave Park	City of El Paso	14341 East Cave Ave.	ELP1
East Metro Park	Travis County	18706 Blake Manor Road	STX9
East Terrell Hills Elementary School Park	City of San Antonio	4415 Bloomdale	SAT1x, SAT3, STX7
Eastside Sports Complex	City of El Paso	14380 Montwood Dr.	ELP1
Echo Park	City of Lewisville	800 Sir Andred Ln	STX2
Eddie Durham Park	City of San Marcos	213 W. MLK Dr	SAT2
Eighth & Davis Triangle	City of Dallas	200 Davis Ave.	DAL3, STX3
El Dorado Elementary School Park	City of San Antonio	12634 El Sendero	STX7
Eladio R. Martinez	City of Dallas	2500 Jim St. at Fess	DAL3, STX3
ELDRIDGE PARK	City of Sugar Land	2511 Eldridge Road	HOU6, SAHx
Elizabeth Creek	City of Fort Worth	1100 Chaplin Dr	FTW4
ELLA HIKE AND BIKE TRAIL	Harris County Precinct 2	Ella Blvd & W Gulf Bank Rd	HOU2
Elm at Pearl	City of Dallas	2100 Elm	DAL3, STX3
Elm Fork Athletic Complex	City of Dallas	2200 Walnut Hill Ln	STX2
Elm Fork Greenbelt	City of Dallas	Loop 12 to Trinity River Confluence	DAL3, STX2, STX3
Elm Fork Greenbelt - Fishing Hole Lake	City of Dallas	Story Rd. at Elm Fork of Trinity Conservation	DAL3, STX2, STX3
Elm Fork Gun Club	City of Dallas	10751 Luna Road	STX2
Elmwood Parkway	City of Dallas	1900 Rugged Dr.	DAL3, STX3
Eloise Lundy	City of Dallas	1200 Sabine	DAL3, STX3
Emerald Lake	City of Dallas	6102 Mountain Creek Parkway	DAL3, STX3
Emma Carter	City of Dallas	4100 Pluto	DAL3, STX3
Energy Plaza	City of Dallas	1600 Bryan	DAL3, STX3
Ernie Roberts Park	City of DeSoto	515 E Pleasant Run Road	IAH1
Espanola	City of El Paso	14601 Ciambriello Ave.	ELP1
Eventide Park	City of Terrell Hills	Eventide and Morningside	STX7
Exall	City of Dallas	3501 Live Oak	DAL3, STX3
Exline	City of Dallas	2525 Pine St.	STX3
EXPLORATION PARK	Willow Fork Drainage District	15020 Cinco Park Rd	HOU6
Exposition Plaza	City of Dallas	Exposition and Canton	STX3
Fair	City of Dallas	1200 Second Ave.	STX3
Fairchild Park	City of San Antonio	1214 E Crockett St	SAT1x, SAT3, STX7
Fairfax	Town of Highland Park	4524 Beverly Dr.	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Fairfax Park	Town of Highland Park	4524 Beverly Dr.	DAL3, STX3
Fairmont Park	City of La Porte	3540 Farrington	STX4
Fairplay Park	City of Roanoke	312 S. Walnut Street	FTW4
Feather Lake	City of El Paso/Trans Texas Audubon Society	9418 N Loop Dr	ELP1
Federal Plaza	City of Dallas	1900 Federal St.	DAL3, STX3
Fernie Madrid Eagle Park	City of San Elizario	12500 Socorro Rd	ELP1
Ferris Plaza	City of Dallas	400 South Houston	DAL3, STX3
Field-Frazier	City of Dallas	4300 West Lovers Lane	STX3
Fireside	City of Dallas	8600 Fireside	IAH1
First Colony Park	City of Sugarland	3233 Austin Pkwy	SAHx
First Colony Trail	City of Missouri, TX	0	SAHx
Fitness Park	City of Lewisville	2617 Round Table Blvd	STX2
Five Mile Creek Greenbelt	City of Dallas	Between Glendale and Arden Terrace Parks	STX3
Five Mile Creek Greenbelt (East)	City of Dallas	Intersection of East Pentagon Parkway and Bronx Ave	IAH1
Five Mill Creek Greenbelt	City of Dallas	Trinity River to Cockrell Hill	DAL3, STX3
Flippen	Town of Highland Park	4421 North Versailles Ave.	DAL3, STX3
Flippen Park	Town of Highland Park	4421 North Versailles Ave.	DAL3, STX3
Florida Park	City of San Antonio	144 Florida St	SAT1x, STX7
Forest	City of Dallas	2906 Parnell	DAL3, STX3
Forest Cliff	City of Dallas	5127 Duncanville Rd.	DAL3, STX3
FOREST WEST PARK	City of Houston	5915 Golden Forest Drive	HOU2, STX5
Founder's Square	City of Dallas	1000 Jackson	DAL3, STX3
Four-Way Place Mall	City of Dallas	1400 Elm St.	DAL3, STX3
Frances Rizo	City of Dallas	2300 Kenesaw	DAL3, STX3
Francis Perry Park	City of Carrollton	1400 Francis	STX2
Frank "Francis" T. Hourigan	City of El Paso	2085 Shreya St.	ELP1
Franklin Square Park	City of San Marcos	1902 N Bishop St	SAT2
Freed Park	City of Houston	6818 Shadyvilla Ln.	STX5
Freedman's Memorial Cemeter	City of Dallas	2525 North Central Expressway	DAL3, STX3
Freedom Dog Park	City of Trophy Club	2675 Trophy Park Drive	FTW4
FREEDOM PARK	Fort Bend County	18050 Westheimer Pkwy	HOU6
Freedom Tree Park	City of Missouri, TX	0	SAHx

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Freeman Park	City of Round Rock	301 Forest Ridge Boulevard	AUS2, STX6
FREEMAN TOWN PARK	City of Richmond	601 Burnet Street	HOU6
Freshmeadow Park	City of Houston	4500 Campbell Road	STX5
Fretz	City of Dallas	6994 Belt Line Road	STX2
Friendship Park	City of Fort Worth	9550 Chuparosa Dr	DFW7, FTW4
Friendship Park	City of Kirby	5745 Binz Engleman Rd	SAT3, STX7
Friendship Park	City of Seabrook	1500 Red Bluff Road	STX4
Fritz Hughes Park	Travis County	3100 Fritz Hughes Park Road	STX9
Fritz Park	City of Hutto	400 Park Street	STX6, STX6
Fritz Park	City of Irving	312 E. Vilbig	DAL3, STX3
Frontier Park	City of Round Rock	1804 Frontier Trail	AUS2, STX6
Fruitdale	City of Dallas	4408 Vandervoort Dr.	IAH1
Gammill Park	City of Missouri, TX	0	SAHx
Gannon	City of Dallas	440 West Clarendon Dr.	DAL3, STX3
Garcia Park	City of San Antonio	1200 N Frio St	STX7
Garden Oaks Triangle Park	Garden Oaks Maintenance Organization	Azalea St & Alba Rd	HOU2
Garden Oaks/Shepherd Park Community Garden	Garden Oaks Maintenance Organization	Alba Rd, between Chamboard Ln and Sue Barnett Dr	HOU2
Gary & Bonnie Trietsch Park	Harris County	1600 Baker Road	HOU6
Gary Sports Complex	City of San Marcos	2600 Airport Highway 21	SAT2
Gates Elementary School Park	City of San Antonio	510 Morningview	SAT1x, SAT3, STX7
Gateway Estates	City of El Paso	Amesbury, Green Valley, Serran, and Eased	ELP1
Gateway Park	City of Glenn Heights	1990 Gateway Boulevard	IAH1
GCWA Trail	City of Missouri, TX	0	SAHx
Gene Flores Park	City of San Antonio	225 Austin Rd	SAT1x, SAT3, STX7
Geneseo Esplanade	City of Terrell Hills	Geneseo and Eldon	STX7
Geneva's Park	City of Pflugerville	1622 Royal Ascot Drive	AUS2, STX6, STX9
George Bush Park	Harris County	16756 Westheimer Parkway	HOU6
George Park	City of Richmond	2155 Collins Rd	HOU6
Gerber Park	Harris County Precinct 2	4735 Gaston St	HOU2
Gilleland Creek Greenbelt	City of Austin	N FM 973 Road	AUS2
Gilleland Creek Park	City of Pflugerville	700 N Railroad Ave	AUS2, STX6, STX9
Gillespie	City of Fort Worth	1100 Blackhorse Trl	FTW4

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Glen Meadow	City of Dallas	11800 Rosser	STX2
Glen Meadows Park	City of Plano	6300 Park Meadow Lane	STX2
Glendale	City of Dallas	1515 E. Ledbetter Dr.	IAH1, STX3
Glenmore Forest Park	City of Houston	8000 Wingo	STX5
Glenwood Splash Pad	City of Hutto	101 Fishbaugh Lane	AUS2, STX6
Glory Park / Parque la Gloria	City of Lewisville	301 E. Southwest Parkway	STX2
Goat Hill Katy Trail Easement	City of Dallas	Goat Hill - Katy Trail to Dallas North Tollway Ram	DAL3, STX3
Golden Eagle Park	City of Horizon City	14400 Golden Eagle Dr	ELP1
Gordon Fountain Lake Park	City of Stafford	10701 Fountain Lake Drive	HOU6
Gracywoods Neighborhood Park	City of Austin	12133 Metric Blvd	AUS2, STX6
Gran Vista Park	City of El Paso	1157 Montera Rd.	ELP1
Granada Trail	City of Westlake	Westlake, TX 76262	FTW4
Grand Prairie Memorial Gardens and Mausoleum	City of Grand Prairie	3001 S. Belt Line Rd	DAL3, STX3
Grapevine Creek Park (also identifed as Moore Road Park)	City of Coppell	600 Moore Road	STX2
Grapevine Springs Park	City of Coppell	700 S Park Road	STX2
Grauwyler	City of Dallas	7500 Harry Hines Blvd.	DAL3, STX3
Gravley Park	City of Carrollton	1508 N. Perry Road	STX2
Great Trinity Forest	City of Dallas	2nd Ave to Trinity River	STX3
Greeenbury Village Park	City of Manor	Maxa Drive and Greenbury Drive	AUS2, STX9
Greenbelt Area 2	City of Carrollton	Josey Lane & Southern Oaks	STX2
Greenbelt Area 2 Disc Golf	City of Carrollton	3022 N. Josey Lane	STX2
Greenbelt Area 3	City of Carrollton	Josey & Tree Line	STX2
Greenhill Park	City of Round Rock	1825 Nicole Circle	STX6
Greenlawn Park	City of Round Rock	Kensington Trail	AUS2, STX6
Griggs	City of Dallas	32000 Colby St	DAL3, STX3
Grimes Baseball Complex	City of DeSoto	501 E Wintergreen Road	IAH1
Guard Service Center (D2)	City of Dallas	1400 Guard Drive	IAH1
Guardiola Park	City of Martindale	Main Street	SAT2
Gurley Park	City of Waco	3600 S 4th St	AUS3
Gussie Field Watterworth Park & Trail	City of Farmers Branch	2610 Valley View Ln	STX2
Gustavo "Gus" L. Garcia District Park	City of Austin	1201 E Rundberg Lane	AUS2
H. Pryor Park	City of Kirby	3211 Charles Conrad Dr	SAT3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
H. Pryor Smith Park	City of Kirby	Charles Conrad Drive and Binz Engleman Road	STX7
Hackberry Park	City of Houston	7777 S. Dairy Ashford	HOU6
Halls Bayou Hike and Bike Trail	Harris County Precinct 2	Little York & Halls Bayou	HOU2
Hamilton Point Park	City of Manor	Hamilton Point Circle	AUS2, STX9
Hamilton Pool Preserve	Travis County	24300 Hamilton Pool Road	STX9
Hanging Rock at Falcon Pointe	City of Pflugerville	2004 Hayfield Square	AUS2, STX6, STX9
Hargrove Park	City of Red Oak	600 Congressional Ave	IAH1
Harlem Road Park	Fort Bend County	701 Harlem Rd	HOU6
Harmony Park	City of Trophy Club	699 Indian Creek Drive	FTW4
Harold K Bessire Park	City of Carrollton	1117 Dentonshire	STX2
Harriet Creek Ranch	City of Fort Worth	16215 Cowboy Trail	DFW7, FTW4
Harriet Creek Ranch Park	City of Fort Worth	16215 Cowboy Trail	FTW4
Harris Branch Greenbelt	City of Austin	Montgomery Street	STX6, AUS2
Harris Branch Neighborhood Park	City of Austin	11200 Farmhaven Road	AUS2
Harris County Pocket Park	City of Houston	906 W Sam Houston Beltway	STX5
Harry Hines Triangle	City of Dallas	2402 Harry Hines Blvd.	DAL3, STX3
Harvest Ridge Park	City of Fort Worth	13025 Harvest Ridge Road	DFW7, FTW4
Harvest Run Park	City of Carrollton	4334 Spurwood Dr	STX2
Haskin Park	City of San Antonio	200 Haskin Drive	SAT1x, STX7
Haslet Community Park	City of Haslet	301 1st Street South	DFW7
Hattie R Moore	City of Dallas	3212 North Winnetka	DAL3, STX3
Hays County Veterans Memorial	City of San Marcos	450 E. Hopkins Street	SAT2
Healy Murphy Park	City of San Antonio	210 Nolan St	SAT1x, STX7
Hedwig Park	City of Houston	930 1/2 Corbindale Rd.	STX5
Heights Garden	City of Dallas	3415 West Sheldon Ave.	DAL3, STX3
Helen C. Emory	City of Dallas	2500 Obenchain	DAL3, STX3
Hemisfair Park	City of San Antonio	600 Hemisfair Plaza Way	SAT1x, STX7
Hendrix	City of Grand Prairie	1911 SE 14th St.	DAL3, STX3
Hendrix Park	City of Grand Prairie	1911 SE 14th St.	DAL3, STX3
Henry Froehner Pocket Park	City of Houston	1507 1/2 Bracher St.	STX5
Heritage Addition Park	City of Fort Worth	3600 Heritage Trace Parkway	DFW7, FTW4
Heritage Colony Parkland	City of Missouri, TX	0	SAHx
Heritage Colony Pipeline Parkland	City of Missouri, TX	0	SAHx

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Heritage Glen Park	City of Fort Worth	4400 Heritage Glen Dr	DFW7, FTW4
Heritage Park	City of Irving	217 S. Main St.	DAL3, STX3
Heritage Park	City of Lancaster	250 N. Dallas Avenue	IAH1
Heritage Park	City of Pflugerville	901 Old Austin Hutto Road	AUS2, STX6, STX9
Herndon	City of Dallas	400 East Woodin	DAL3, IAH1, STX3
Herrera Park	City of San Antonio	130 I St	SAT1x, SAT3, STX7
Herrin Tract Parkland	City of Missouri, TX	0	SAHx
Hewitt Park	City of Hewitt	801 S Hewitt Drive	AUS3
Hickory Shadows Pocket Park	City of Houston	1003 Wirt Rd.	STX5
Hidden Lake Park	City of Pflugerville	Veiled Falls Drive	AUS2, STX6, STX9
Hidden Park	City of Lewisville	2398 Damsel Katie Dr	STX2
Hidden Park	City of Pflugerville	417 Hidden Park Drive	AUS2, STX6, STX9
Hidden Valley Park	City of Socorro	12033 Silent Pl Ct	ELP1
High Country Park	City of Round Rock	2910 Flower Hill Drive	AUS2, STX6
Highlan Park	City of San Antonio	901 Rigsby Ave	STX7, SAT1x, SAT3
Highland Park	City of Houston	3316 De Soto Street	HOU2, STX5
Highland Park	City of San Antonio	901 Rigsby Ave	STX7, SAT1x, SAT3
Highland Park Linear Park	City of Pflugerville	1105 Craters of the Moon Blvd	AUS2, STX6, STX9
Highland Park Natural Areas	City of Pflugerville	Great Basin Avenu	AUS2, STX6, STX9
Highland Park South	City of Pflugerville	Highland Park Subdivision	AUS2, STX6, STX9
Highland Station Park	City of Saginaw	1332 High Country Trail	DFW7
Highlands Park	City of Sugarland	2018 Colonist Park Dr	SAHx
Hike & Bike Trail	City of Lancaster	1700 Veterans Memorial Parkway	IAH1
Hill Street	City of Grand Prairie	1500 W Hill St	DAL3
Hillcrest	City of Dallas	13819 Hillcrest	STX2
Hines	City of Dallas	9601 Harry Hines Blvd.	DAL3, STX2, STX3
Hippie Hollow	Travis County	7000 Comanche Trail	STX9
Historic City Cemeteries	City of San Antonio	2015 E Commerce St	SAT1x, SAT3, STX7
Historical Park	City of Farmers Branch	2540 Farmers Branch Ln	STX2
Holman D. Rhoton Park	City of Carrollton	2250 Ridgedale Drive	STX2
Holmstrom Field	City of Hutto	400 Park Street	STX6, STX6
Horizon Hills Park	City of El Paso	12650 Mark twain ave	ELP1
Horizon Mesa Park	City of Horizon City	14301 Desert Shadow Dr	ELP1
Hospital District Greenspace	City of Irving	1727 Sunnybrook Drive	DAL3, STX3
Housman Pocket Park	City of Houston	6705 Housman St	STX5
Hugo Lentz	City of Kirby	5750 Old Seguin Rd	SAT3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Hugo Lentz Park	City of Kirby	5750 Old Seguin Road	STX7
Hulcy	City of Dallas	1200 Danieldale Rd.	IAH1
Hunters Creek Park	City of El Paso	14260 Hunter Creek Drive	ELP1
Hunters Glen Jogging Trail	City of Missouri, TX	0	SAHx
Hunters Glen Jogging Trail	City of Missouri, TX	0	SAHx
Hunters Glen Park	City of Missouri, TX	0	SAHx
Hunters Trail Park	City of Missouri, TX	0	SAHx
Hunterwood Park	City of Coppell	553 Anderson Avenue	STX2
Hurwitz Park	City of Irving	608 N. Nursery	DAL3, STX3
Hutto Community Park	City of Hutto	514 S Pauley Drive	AUS2, STX6
Hutto Lake Park	City of Hutto	805 Estate Drive	AUS2, STX6
Ida Gaye Gardens	North Houston District	16135 West Hardy Road	HOU2
Ignacio "Nacho" Ceja Park	City of Kirby	Autumn Lane and Kirby Drive	SAT3, STX7
Imperial Park	City of Sugar Land	7750 Hwy 90A	HOU6, SAHx
Independence Hike & Bike Trail	City of El Paso / PSB	Independence from Yarbough to Pasodale	ELP1
Independence Park	City of Houston	5515 Clara Rd.	STX5
Independence Park	City of Missouri, TX	2621 Independence Boulevard	SAHx, STX5
Independence Park East	City of Trophy Club	500 Parkview Drive	FTW4
Independence Park West	City of Trophy Club	501 Parkview Drive	FTW4
Indian Creek Park	City of Plano	2701 La Costa Drive	STX2
Indian Creek Ranch Park	City of Carrollton	1645 Coyote Ridge	STX2
Indian Heights	City of El Paso	3209 White Bird Dr.	ELP1
Indian Ridge	City of Dallas	1800 Goldwood	IAH1, STX3
Indian Ridge 10	City of El Paso	3332 Pendleton	ELP1
Indian Spring Park	City of Waco	101 N University Parks Dr	AUS3
Indian Springs Park	City of Watauga	7901 Indian Springs Rd	DFW7
Irving Golf Club	City of Irving	2000 E Shady Grove Road	DAL3, STX3
Irving Soccer Complex	City of Irving	3585 World Cup Way	STX2
J Street Park	City of San Antonio	3500 J St	SAT1x, SAT3, STX7
J. P. Shawver	City of El Paso / PSB	8100 Independence	ELP1
J.A. Dewberry Park	City of Lancaster	2975 Green Drive	IAH1
J.J. Craft House	City of Dallas	2618 Warren Ave.	STX3
J.J. Lemmon	City of Dallas	6100 J.J. Lemmon	IAH1
J.W. Ray	City of Dallas	2010 N. Washington St.	DAL3, STX3
JACK DRAKE PARK	North Houston District	641 Bradfield Road	HOU2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Jack White Park	City of San Antonio	3803 Seguin Rd	SAT1x, SAT3, STX7
Jackie Townsell Bear Creek Heritage Center	City of Irving	3925 Jackson Street	DAL3
James A. Foster Park	City of Kemah	145 W 7th St.	STX4
James Driver Park	Harris County Precinct 2	10918 1/2 Bentley St.	HOU2
James Park	City of San Antonio	3910 Rittiman Rd	SAT1x, SAT3, STX7
James W. Aston	City of Dallas	1919 Pacific	DAL3, STX3
James W. Lee Park	City of Houston	9025 Pitner Road	STX5
Jamestown	City of Dallas	12433 Jamestown Road	STX2
Jamestown Park Pond	City of El Paso / PSB	704 Fall River Rd.	ELP1
Janet Long Fish Park @ Harris Branch Green Belt	City of Austin	13840 Dessau Road	STX6, AUS2
Jardin de Flores Park	City of Socorro	253 Flor Margarita Blvd	ELP1
Jaycee Park	City of Irving	2000 W. Airport Fwy	STX3, DAL3
Jaycee Park	City of Houston	1300 Seamist Drive	STX5
Jaycee Park	City of Irving	2000 W. Airport Fwy	STX3, DAL3
Jaycee Park	City of Lancaster	620 W. Pleasant Run Road	IAH1
Jaycee Park	City of Waco	6300 Tennyson Dr	AUS3
Jaycees Park	City of San Marcos	1907 Lancaster St	SAT2
Jaycee-Zaragoza	City of Dallas	3114 Clymer	DAL3, STX3
Jennie Lane Park	City of Manor	104 E Rector Street	AUS2, STX9
Jersey Meadow Nature Trail	City of Jersey Village	Jersey Meadows Drive	STX5
Jester (T.C.) Parkway	City of Houston	4201 TC Jester West	HOU2
Jim McDonald Park	City of Meadows Place	12005 Dorrance Ln	HOU6
Jimmy Porter Disc Golf	City of Carrollton	1600 Keller Springs Road	STX2
Jimmy Porter Park	City of Carrollton	1871 Sherwood Lane	STX2
JJ Stokes Park	City of San Marcos	600 Cape Rd	SAT2
Joey Georgusis	City of Dallas	1200 N Cockrell Hill Rd.	DAL3, STX3
John C. Phelps	City of Dallas	3000 Tips Blvd.	IAH1, STX3
John C. Phelps Trail	City of Dallas	2700 Van Cleave	DAL3, STX3
John Carpenter Plaza	City of Dallas	2201 Pacific	DAL3, STX3
John F. Burke Nature Preserve & Trail	City of Farmers Branch	1111 Valley View Ln	STX2
John Gammill Park	City of Haslet	101 Gammill St	DFW7
John H. Sterling Memorial Park	City of Kirby	3211 Charles Conrad Drive	STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
John Lyons Park	City of El Paso	11510 Cheryl Ladd	ELP1
Johnson Road Park	City of Keller	640 Johnson Rd	DFW7, FTW4
Johnson Street	City of Grand Prairie	805 NE 33rd St.	DAL3, STX3
Johnson Street Park	City of Grand Prairie	805 NE 33rd St.	DAL3, STX3
Jones Creek Ranch Park	Fort Bend County	7714 FM 359 Rd	HOU6
Joppa Preserve	City of Dallas	5400 Block Simpson Stuart Rd	IAH1
Josey Ranch Sports Complex	City of Carrollton	1440 Keller Springs Road	STX2
Judge Bonnie Hellums Pocket Park	City of Houston	1789 Campbell Rd.	STX5
Judge Roberta Lloyd Pocket Park	City of Houston	1710 Gessner Rd.	STX5
Judson Nature Trails	City of Alamo Heights	246 Viesca Street	STX7
Julius Schepps	City of Dallas	Canton Street and Good-Latimer Expressway	DAL3, STX3
Junction Park	City of Fort Worth	2250 Presidio Vista Dr.	DFW7
Jupe Manor Neighborhood Park	City of San Antonio	3218 Kaiser Rd	SAT1x, SAT3, STX7
Justin Community Park	City of Justin	420 Ovaletta Dr	FTW4
K.B. Polk	City of Dallas	3800 Thedford	DAL3, STX3
K-9 Pointe Dog park	City of Keller	405 Rufe Snow Dr	DFW7
Kallison Park	City of San Antonio	9500 Moraga Dr	SAT1x, STX7
Kangaroo Court Park	City of Meadows Place	Kangaroo Court	HOU6
Kardon Park	City of San Antonio	6161 Gibbs-Sprawl Rd	SAT1x, SAT3, STX7
Katie Jackson	City of Dallas	4900 Haverwood	STX2
Katy Park	City of Waco	N Washington	AUS3
Katy Trail	City of Dallas	Lyte St to Harvard	DAL3, STX3
Katy Trail - Fitzhugh Gateway	City of Dallas	3326 North Fitzhugh Ave.	STX3
Keeler Park	City of Irving	520 S. Rogers Road	DAL3, STX3
Keenan Crossing Trail & Park	City of Irving	Royal at Elm Fork	STX2
Keeneland Escarpment Greenbelt	City of Dallas	5303 Keeneland Pkwy.	DAL3, STX3
Keith-Wiess Park	City of Houston	12300 Aldine-Westfield	HOU2
Keller Sports Park	City of Keller	265 Golden Triangle Blvd	DFW7, FTW4
Keller Springs	City of Dallas	5710 Keller Springs Rd.	STX2
Keller Springs Park	City of Carrollton	2146 Kelly Blvd	STX2
Keller Veterans Memorial Park	City of Keller	100 N Main St	DFW7, FTW4
Kelly Lane Park	City of Pflugerville	3200 Kelly Lane	AUS2, STX6, STX9

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Kendrick Park	City of Waco	4011 Bagby Ave	AUS3
Kenneth M Copeland Memorial Park (El Camino Real Park)	City of San Marcos	401 Cottonwood Pkwy	SAT2
Kenwood Park	City of San Antonio	305 Dora St	STX7
Kerr Park	City of Houston	4620 Arlington	HOU2
Kessler Parkway	City of Dallas	1821 Kessler Pkwy.	DAL3, STX3
Kid Country Playground	City of Coppell	260 E Parkway Boulevard	STX2, STX2
Kidd Springs	City of Dallas	700 West Canty St.	DAL3, STX3
Kids Square	City of Lancaster	1990 W. Belt Line Road	IAH1
Kiest	City of Dallas	3080 S. Hampton Rd.	STX3, DAL3, STX3
Kiest Conservation Area	City of Dallas	3080 S. Hampton Rd.	STX3, DAL3, STX3
Kiestwood Trail	City of Dallas	Franklin St. to Rio Grande Ave.	DAL3, STX3
Kimble (Irene H. Triggs-Myers Prosperity Park)	City of Dallas	2215 Warren Ave.	STX3
King Lionel Park	City of Lewisville	620 King Lionel Ln	STX2
King Park	City of San Antonio	3503 Martin Luther King Dr	SAT1x, SAT3, STX7
King Plaza Park	City of San Antonio	2202 E Houston St	SAT1x, SAT3, STX7
King Square Park	City of Irving	200 Gilbert Road	DAL3
King William Park	City of San Antonio	131 King William	STX7
Kingsridge Park	City of Fort Worth	5001 Golden Triangle Blvd	DFW7, FTW4
Kingsridge West Park	City of Fort Worth	5001 Golden Triangle Blvd	FTW4
Kinningham Park	City of Round Rock	1000 Southcreek Drive	AUS2, STX6
Kiowa	City of Dallas	6600 Arapaho Road	STX2
Kiowa Parkway	City of Dallas	15200 Woodbriar	STX2
Kipper Mease Sports Complex	Harris County	10700 Red Bluff Rd.	STX4
Kirby Creek Nature Center	City of Grand Prairie	3303 Corn Valley Rd	DAL3
Kitty Hollow County Park	Fort Bend County	9555 Hwy 6 South Missouri City, TX	SAHx
Klyde Warren	City of Dallas	2012 Woodall Rodgers Freeway	DAL3, STX3
Knob Hills Park	US Army Corps of Engineers	West end of Grapevine Lake, off of State Highway 377	FTW4
Kristi Jean Burbach Park	City of Fort Worth	3529 Fossil Park Dr	DFW7
Kuempel Park	City of Pflugerville	1110 House Wren Loop	AUS2, STX6, STX9
L.B. Houston Nature Area	City of Dallas	10152 Wildwood Dr.	DAL3, STX2, STX3
L.B.J.	City of Grand Prairie	600 Stonewall Dr	DAL3
La Reunion Cemetery	City of Dallas	3101 Fish Trap Rd.	DAL3, STX3
La Villita	City of San Antonio	418 Villita St	SAT1x, STX7
Labor Street Park	City of San Antonio	436 Labor St	SAT1x, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Lady Bird Johnson Park	City of San Antonio	10700 Nacogdoches Rd	SAT1x, STX7
Lake Cliff	City of Dallas	300 East Colorado	DAL3, STX3
Lake Creek Park	City of Round Rock	800 Deerfoot Drive	AUS2, STX6
Lake Pflugerville Park	City of Pflugerville	18216 Weiss Lane	AUS2, STX6, STX9
Lakeshore Harbor Parkland	City of Missouri, TX	0	SAHx
Lakeside at Main Park	City of Live Oak	7800 Lazy Forest Drive	STX7
Lakeside Park	City of Duncanville	515 Hill City Dr.	STX3, DAL3
Lakeside Park	Town of Highland Park	4601 Lakeside Drive	STX3
Lakeview Park	City of Trophy Club	2885 Trophy Park Drive	FTW4
Lamar	City of Grand Prairie	1005 NE 20th St	DAL3, STX3
Lamar Park	City of Grand Prairie	1005 NE 20th St	DAL3, STX3
Lancaster	City of El Paso	701 Brandywine Rd.	ELP1
Landa Library Park	City of San Antonio	223 Bushnell	SAT1x, STX7
Langwood Park	City of Houston	3975 Bolin Road	STX5
Lasater Park	City of Fort Worth	1500 East Harmon Rd	DFW7
Ledbetter Escarpment Greenbelt	City of Dallas	2830 Ledbetter Rd.	DAL3, STX3
Ledbetter-Eagle Ford	City of Dallas	4002 Hammerly Dr.	DAL3, STX3
Lee Park	City of Irving	3000 Pamela Drive	DAL3, STX2
Lents Family Park East	CNP Utility District	540 Cypress Station	HOU2
Lents Family Park West	CNP Utility District	18103 Cypress Trace	HOU2
Leonor Duran Park	City of Socorro	11571 Wayne Carreon St	ELP1
Levy Event Plaza	City of Irving	501 E. Las Colinas Blvd	DAL3, STX2
Lewisville Lake Environmental Learning Area	City of Lewisville	201 E. Jones St	STX2
Lewisville Skate Park	City of Lewisville	1301 S. Railroad Street	STX2, STX2, STX2
Lexington Creek Park	City of Missouri, TX	0	SAHx
Lexington Square Parkland	City of Missouri, TX	0	SAHx
Lexington Village Park	City of Missouri, TX	0	SAHx
Liberty Plaza	City of Farmers Branch	12400 N Stemmons Fwy	STX2
Lincoln Park	City of Houston	979 Grenshaw St.	HOU2, STX5
Lincoln Park	City of San Antonio	2915 E Commerce St	SAT1x, SAT3, STX7
Lindamood Park	City of Irving	6631 Escena Blvd	STX2
Linear Park	City of Roanoke	Sheri Ln	DFW7, FTW4
Lionel Forti	City of El Paso	7735 Phoenix Ave.	ELP1
Lions Park	City of Waco	1716 N 42nd St	AUS3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Little Cedar Bayou Park	City of La Porte	600 Little Cedar Bayou Dr.	STX4
Little Webberville Park	Travis County	910 Water Street	STX9
Live Oak	City of Grand Prairie	3300 Rinehart St	DAL3, STX3
Live Oak Disc Course	City of Live Oak	18001 Park Drive	STX7, STX7, STX7
Live Oak Hillside Disc Golf Course	City of Live Oak	7860 Lazy Forest Drive	STX7
Live Oak Park	City of Grand Prairie	3300 Rinehart St	DAL3, STX3
Lively Park	City of Irving	909 N. O'Connor Road	DAL3, STX3
Lizzie Oliver	City of Dallas	1000 Fordham Road	DAL3, IAH1, STX3
Lockwood Dignowity Park	City of San Antonio	801 N Olive St	SAT1x, SAT3, STX7
Lomaland	City of El Paso	715 Lomita Dr.	ELP1
LONNIE GREEN PARK	City of Sugar Land	130 1st Street	HOU6, SAHx
Loop 360 Boat Ramp	Travis County	5019 Capital of Texas Hwy N	STX9
Loris Land Trailhead	City of Dallas	1642 Loris Lane	DAL3, STX3
Loris Lane Trailhead	City of Dallas	1642 Loris Ln	IAH1
Lost Creek Park	City of Sugarland	3703 Lost Creek Blvd	SAHx
Lost Creek Ranch Park	City of Fort Worth	13861 Lost Spurs Road	DFW7, FTW4
Lost Spurs Park	City of Fort Worth	3520 Alta Vista Road	DFW7, FTW4
Low Branch	City of Grand Prairie	300 W Main St	DAL3, STX3
Low Branch Park	City of Grand Prairie	300 W Main St	DAL3, STX3
Lubben Plaza	City of Dallas	701 Young St.	DAL3, STX3
Lush Garden	City of El Paso	2800 Tierra Benji Pl & 14800 Tierra Haven Ave	ELP1
Luzon Park	City of Irving	2900 Luzon Road	DAL3, STX3
MacArthur County Park	Bexar County	1611 NE 410	SAT1x, STX7
MacArthur Park	City of Coppell	400 South MacArthur Boulevard	STX2
MacNaughton Park	City of Missouri, TX	0	SAHx
Madison Square Park	City of San Antonio	400 Lexington Ave	STX7
Mager Youth Baseball and Softball Fields	City of Hutto	100 Mager Lane	STX6
Magnolia Park	City of Coppell	600 Levee Place	STX2
Mahncke Park	City of San Antonio	3400 Broadway	SAT1x, SAT3, STX7
Main City Park	City of Live Oak	18001 Park Drive	STX7, STX7, STX7
Main Plaza	City of San Antonio	115 Main Plaza	STX7
Main Street Garden	City of Dallas	1920 Main Street	DAL3, STX3
Majestic Theatre	City of Dallas	1925 Elm St.	DAL3, STX3
Mallard Pond Park at Falcon Pointe	City of Pflugerville	19500 Mallard Pond Trail	AUS2, STX6, STX9

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Mallon Park	City of Farmers Branch	2840 Millwood Dr	STX2
Mangnum Manor Park	City of Houston	5235 Saxon Drive	STX5
Manor Art Park	City of Manor	111 S Lexington St	AUS2, STX9
Mansfield Dam Park	Travis County	4370 Mansfield Dam Park Road	STX9
Marcus	City of Dallas	3003 Northaven Road	STX2
Maria Luna	City of Dallas	4500 Maple	DAL3, STX3
Marian Manor	City of El Paso	8343 Clifford Ct.	ELP1
Marilla, Akard,Young Triangle	City of Dallas	1300 Young	DAL3, STX3
Marina Park	City of Socorro	250 Escalante Dr	ELP1
Mark Mcgrath Park	City of Meadows Place	12001 Brighton Lane	HOU6
Market Square	City of San Antonio	514 W Commerce St	STX7
Market Square Park	City of Grand Prairie	120 W. Main St	DAL3, STX3
Markwood Park	City of Irving	1001 S. MacArthur Blvd.	DAL3, STX3
Martha Pointer Park	City of Carrollton	2742 Scott Mill Road	STX2
Martin Luther King Jr.	City of Dallas	2901 Pennsylvania Ave.	STX3
Martin Luther King Jr. Park	City of Hutchins	801 Oak Creek Drive	IAH1
Martin Luther King Median	City of Dallas	1300 to 2300 Blocks	DAL3, STX3
Martin Luther King, Jr. Park	City of Waco	101 S MLK Jr Blvd	AUS3
Martin Weiss	City of Dallas	3400 West Clarendon	DAL3, STX3
Marty Robbins	City of El Paso	11600 Vista Del Sol Dr.	ELP1
Martyr's	City of Dallas	265 Commerce St.	DAL3, STX3
Mary Heads Carter Park	City of Carrollton	2320 Heads Lane	STX2
Mary Quinlan Park	Travis County	1601 Quinlan Park Road S	STX9
MARY WITHERS PARK	Harris County Precinct 2	10600 Shady Lane	HOU2
Maureen & Joe Mulrooney Pocket Park	City of Houston	9705 Hammerly Blvd.	STX5
Mauro Rosas Park	City of Socorro	350 Flor Morada	ELP1
Maverick Park	City of San Antonio	1000 Broadway	SAT1x, STX7
MAYFIELD PARK	City of Sugar Land	106 Avenue D	HOU6, SAHx
Mayor's Hill	City of Westlake	Solana Boulevard, Westlake, TX	FTW4
McAllister Park	City of San Antonio	13102 Jones Maltsberger Rd	STX7
McCarthy	City of El Paso	1170 John Phelan Dr.	ELP1
McClendon Park	Harris County	3770 Summit Valley Drive	HOU6
McCommas Bluff	Dallas County	7000 Fairport Rd.	IAH1
McFalls	City of Grand Prairie	505 Dickey Rd	DAL3, STX3
McFalls Park	City of Grand Prairie	505 Dickey Rd	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
McFalls Park East	City of Grand Prairie	1300 SW 3rd St	DAL3, STX3
McFalls Park East Park	City of Grand Prairie	1300 SW 3rd St	DAL3, STX3
McInnish Dog Park	City of Carrollton	1845 Legends Trail	STX2
McInnish Sports Complex	City of Carrollton	2335 Sandy Lake Road	STX2
McLain Park	City of Missouri, TX	0	SAHx
McNair Memorial Park	City of El Lago	418 Lakeshore Dr.	STX4
McPherson Ranch Park	City of Fort Worth	3590 Martinsburg Dr	DFW7, FTW4
Meadow Creek Park	City of Round Rock	2901 Settlement Drive	STX6
Meadow Glen Park	City of Meadows Place	12210 Meadowglen Drive	HOU6
Meadow Lake Park	City of Sugar Land	1600 Great Oak Lane	HOU6, SAHx
Meadow Stone	City of Dallas	2700 Meadow Stone	DAL3, IAH1, STX3
Meadowcreek Park	City of Lancaster	901 Meadowcreek Drive	IAH1
MELROSE PARK	City of Houston	1000 Canino Road	HOU2
Memorial Bend Pocket Park	City of Houston	255 Isolde Dr	STX5
Memorial Park	City of Duncanville	101 N Main Street	STX3, DAL3
Memorial Park	City of Houston	4501 Woodway Drive	STX5
Memorial Park	City of Round Rock	600 North Lee Street	AUS2, STX6
Memorial Park	City of Socorro	341 N Moon Rd	ELP1, ELP1
Mendoza Park	City of San Antonio	5206 Hillje St	SAT1x, SAT3, STX7
Menger Creek Linear Park	City of San Antonio	1526 N Walters St	SAT1x, SAT3, STX7
Mercer Arboretum	Harris County	22251 Aldine Westfield Road	SAH1
Merrifield Cemetery	City of Dallas	5956 W. Jefferson Blvd.	DAL3, STX3
Mesa Drain Jog-Rec Path Linear Trail	City of El Paso / PSB	7900 La Jolla to 500 Emerson St	ELP1
Mesa Drain LT	City of El Paso / PSB	500 Mauer Rd to 7900 La Jolla	ELP1
Mesa Village Park	City of Round Rock	1401 Georgetown Street	STX6
Mesquite Lawn Park	City of San Antonio	100 Catalpa Ave	SAT1x, SAT3, STX7
Mesquite Park	City of Sugarland	2710 Mesquite Dr	SAHx
Mesquite Trails 1 LT	City of El Paso	New Gull Ln. & Snowy Plover St.	ELP1, ELP1
Mesquite Trails 2 LT	City of El Paso	New Gull Ln. & Snowy Plover St.	ELP1, ELP1
Mesquite Trails Pocket Park & Placita	City of El Paso	1353 Dominic Anakin Dr.	ELP1
Metroplex BMX Park	City of DeSoto	500 E. Centre Park Boulevard	IAH1
Meyer Park	Harris County Precint 3	7700 Cypresswood Dr	HOU2
Mi Familia Park / Mountain Creek Lake	City of Grand Prairie	2402 Cardiff St.	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Midway Little League Broughton Complex	City of Woodway	8215 Old McGregor Road	AUS3
Midway Manor	City of Dallas	8000 Lemmon Avenue	STX2, STX3
Mike Lewis	City of Grand Prairie	2600 Block of N Carrier Pkwy	DAL3
Milam Park	City of San Antonio	501 W Commerce St	STX7
Milam Wesley Tealer Park	City of San Antonio	5640 Lakefront	SAT1x, SAT3, STX7
Military Plaza	City of San Antonio	100 Plaza de Armas	STX7
Mill Street Park	City of San Marcos	215 Mill St	SAT2
Mill Valley Park	City of Carrollton	2100 Carmel Drive	STX2
Millenium Park	City of Irving	201 North Sowers Rd.	DAL3, STX3
Miller	City of Dallas	3309 Bonnie View Rd.	IAH1, STX3
Miller Family	City of Dallas	2814 Persimmon Road	IAH1
Miramar Park	City of Converse	Civil Crossing and Appelate Way	SAT3
Mission West Park	Fort Bend County	7536c 1/3 Tetela Drive	HOU6
Mitchell Park	City of Waco	3024 Mitchell Ave	AUS3
Mockingbird	City of Grand Prairie	NE 35th St.	DAL3, STX3
Mockingbird Park	City of Grand Prairie	NE 35th St.	DAL3, STX3
Molly Pryor Memorial Orchard	City of Houston	15200 Memorial Dr.	STX5, STX5
Montgomery County Preserve	Montgomery County	1122 Pruitt Road	SAH1
Montreal Park	City of Socorro	Montreal Cir	ELP1
Montwood Heights	City of El Paso	12598 Flora Alba	ELP1
Montwood High	City of El Paso	12000 Montwood Drive	ELP1
Moon City Park	City of Socorro	10197 Calcutta Dr	ELP1
Moore	City of Dallas	1900 East Eighth St.	DAL3, STX3
Moore Road Park	City of Coppell	600 N Moore Road	STX2
Moose Park	City of Pflugerville	1218 Settlers Valley Drive	AUS2, STX6, STX9
Morden Park	City of Fort Worth	736 Blackhorse Trl	FTW4
Moritz Pech Family Pocket Park	City of Houston	1493 1/2 Moritz Dr.	STX5
Moseley Softball Park	City of DeSoto	1300 Honor Drive	IAH1
Mosley Park	City of Missouri, TX	0	SAHx
Moss	City of Dallas	2600 Sunset St.	DAL3, STX3
Mountain Creek Lake	City of Dallas	3436 Florina	DAL3, STX3
Mountain Creek Park	City of Pflugerville	1108 S 10th Street	AUS2, STX6, STX9
Mountain Creek Preserve	City of Irving	Nursery and Hunter Ferrell Road	DAL3, STX3
Mountain Creek Soccer Complex	City of Grand Prairie	3730 S Belt Line Rd	DAL3, STX3
Mountain Valley	City of Dallas	1428 Merrifield Rd./5800 Sprtsmans Parkway	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Mountainview Park	City of Waco	2325 Mountainview Dr	AUS3
MUD 257 Park	City of Houston	16502 Smithstone Dr.	STX5
Murchison Park	City of Pflugerville	Falcon Pointe	AUS2, STX6, STX9
Murphy Hills Park	City of DeSoto	500 Alpine Drive	IAH1
Musket Valley Neighborhood Park	City of Austin	11605 Bachman Drive	AUS2
Mustang Park	City of Irving	2223 Kinwest Parkway	STX2
Myrtle Pfluger Teer Park	City of Pflugerville	Heritage Loop Trail	AUS2, STX6, STX9
Nance Farm	City of DeSoto	1325 Greenbrook Drive	IAH1
Nance Field	City of Haslet	502 Schoolhouse Road	FTW4
Nash/Davis	City of Dallas	3700 North Hampton	DAL3, STX3
Native Coastal Prairie Preserve	Harris County	Space Center Blvd.	STX4
Navajo Civic Center	Bexar County	2600 Risgby Ave, San Antonio, TX 78222	STX7, SAT1x, SAT3, STX7
Netherland	City of Dallas	5600 Dittmar	STX2
Nichols	City of Irving	2310 Newton Circle E	DAL3, STX3
Nichols Park	City of Irving	2310 Newton Circle E	DAL3, STX3
Ninnie Baird Park	City of Fort Worth	8900 Hawley Dr	DFW7, FTW4
Nob Hill Park	City of Houston	10300 Timberoak Dr.	STX5
North Houston Bike Park	North Houston District	12257 Kuykendahl Road	HOU2
North Houston Skate Park	North Houston District	12351 Kuykendahl Road	HOU2, HOU2
North Lake Ranch Park	City of Irving	1317 Ranch Trail	STX2
North Oaks Neighborhood Park	City of Austin	820 Plaza Drive	AUS2
North Park	City of Converse	8200 Spring Town	STX7
North Park	City of Fort Worth	9000 North Beach St	DFW7
North Park	City of Pflugerville	1407 Suzi Lane	AUS2, FTW4, STX6, STX9
North Shore Park	US Army Corps of Engineers	3001 Woodpark Dr, Flower Mound, TX	FTW4
North Star Greenbelt	City of Austin	11701 Tallow Field Way	AUS2, STX6
North Waco Park	City of Waco	2128 Edna Ave	AUS3
Northampton Park	City of San Antonio	8989 FM 78	SAT1x, SAT3, STX7
Northaven Park & Greenbelt	City of Dallas	3875 Northaven	STX2
Northaven Trail	City of Dallas	Valleydale to Preston Road	STX2
NorthBark	City of Dallas	4899 Gramercy Oaks	STX2
Northeast Metro Park	Travis County	15500 Sun Light Near Way	AUS2, STX6, STX9
Northeast Park	City of Keller	1792 Ottinger Rd	DFW7, FTW4

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Norther Hills Golf Course	City of San Antonio	13202 Scarsdale	STX7
Northern Walnut Creek Greenbelt	City of Austin	2611 Park Bend Road	STX6, AUS2
Northgate	City of Irving	608 Rochelle Blvd	DAL3, STX3, STX2
Northgate Park	City of Irving	608 Rochelle Blvd	DAL3, STX3, STX2
Northgate Park	City of Irving	608 Rochelle Blvd	DAL3, STX3, STX2
Northline Park	City of Houston	6911 Nordling Road	HOU2
Northridge Park	City of San Antonio	821 Chevy Chase Dr	SAT1x, STX7
Northwest Community Park	City of Fort Worth	8375 Blue Mound Rd	DFW7
NORVIEW GREENSPACE	City of Houston	134 Norview Drive	HOU2
Nottingham Park	City of Houston	14205 Kimberley Ln.	STX5
Oak Cliff Founders	City of Dallas	1300 North Zang Blvd.	DAL3, STX3
Oak Creek Park	City of Carrollton	2537 Oak Creek Drive	STX2
Oak Grove Elementary School Park	City of San Antonio	3250 Nacogdoches Road	STX7
Oak Hill Park	City of Missouri, TX	0	SAHx
Oak Hills Park	City of Carrollton	1225 Royal Palm Lane	STX2
Oak Meadows	City of Irving	2900 Condor Drive	DAL3, STX3
Oak Meadows Park	City of Irving	2900 Condor Drive	DAL3, STX3
Oakbend Park	City of Lewisville	200 Oakbend Drive	STX2
Oakbrook Greenspace	City of Houston	5353 DeSoto Street	HOU2
Oaks Plaza Skate Spot	City of Live Oak	18001 Park Drive	STX7, STX7, STX7
Oakview	City of Irving	Story Road and Fifth Street	DAL3
Oakwood Park	City of Waco	2301 S 7th St	AUS3
Oakwood Springs Park	City of Carrollton	1817 Hamilton Road	STX2
Oertli Neighborhood Park	City of Austin	12613 Blaine Rd	AUS2, STX6
Officer Adrian Arellano Park	City of El Paso	14241 English Point Dr.	ELP1
Officer David Ortiz Park	City of El Paso	563 N Carolina Dr	ELP1
Old Hutto Trail	City of Pflugerville	Old Austin Hutto Road and Bohls Place	AUS2, STX6, STX9
Old Settlers Park	City of Round Rock	3300 East Palm Valley Blvd	AUS2, STX6
Old Town Park	City of Pflugerville	200 W Hoopes Ave	AUS2, STX6, STX9
Olmos Basin Golf Course	City of San Antonio	7022 McCullough Ave	STX7
Olmos Basin Park	City of San Antonio	651 Devine Rd	STX7
Olmos Park Terrace Park	City of San Antonio	201 W Mandalay Dr	STX7
Olson Park	Harris County	7300 Olson Ln.	STX4
Oran Good Park	City of Farmers Branch	13411 Dennis Lane	STX2
Oriole	City of Duncanville	515 Oriole Blvd.	STX3, DAL3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Oriole Park	City of Duncanville	515 Oriole Blvd.	STX3, DAL3
ORWALL Sports Complex/Woodlands Sports Park/Oak Ridge Woodlands Area Little League	Woodlands Corporation (leased to Montgomery County)	1130 Pruitt Road	SAH1
Oscar DuConge Park	City of Waco	1504 JJ Flewellen Rd	AUS3
Overlake	City of Dallas	9801 Overlake	DAL3, STX2, STX3
Overton Ridge	City of Keller	1509 Roanoke Road	FTW4
Overton Ridge Park	City of Keller	821 Weybridge Ln	DFW7
Oyster Creek Park & Trail	City of Sugarland	4033 State Hwy 6	SAHx
Oyster Creek Trail	City of Missouri, TX	0	SAHx
Pace Bend Park	Travis County	2805 Pace Bend Road North	STX9
Pacific Plaza	City of Dallas	401 North Harwood St.	DAL3, STX3
Padre Park	Bexar County	6515 Padre Drive	STX7
Page	City of Dallas	700 South Monclair	DAL3, STX3
Page Middle School Park	San Antonio ISD	600 Sandmeyer	SAT1x, STX7
Palmetto-Alligator Slough Preserve	Dallas County	Intersection of W. Simonds Road and S. Beltline Road	IAH1
Paradise Park (or Paradize)	City of Socorro	810 Mesa Drain Rd	ELP1
Park at Sorento	City of Pflugerville	Aventura Avenue and Bassano Avenue	AUS2, STX6, STX9
PARK AT THE LEVEE	City of Sugar Land	2205 River Lodge Lane	HOU6
Park Place Park	City of Fort Worth	7812 Park Trails Dr	DFW7
Parkland at the Lake	City of Pflugerville	Silent Harbor Loop	AUS2, STX6, STX9
Parks at Town Center	City of Keller	1100 Bear Creek ParkwayKeller Pointe Playground	FTW4
Parkwood Hills Park	City of Fort Worth	7800 Parkwood Hill Blvd	DFW7
Partnership Park	Harris County	5150 Red Bluff Rd.	STX4
Pasadena Municipal Golf Course	City of Pasadena	1000 Duffer Ln.	STX4
Paseo del Alamo	City of San Antonio	123 Losoya St	SAT1x, STX7
Paseo Del Sol Park	City of El Paso	12599 Paseo Grande St	ELP1
Pavo Real	City of El Paso	9301 Alameda Ave.	ELP1
Peacock Branch	City of Dallas	1400 Kirnwood	IAH1, STX3
Pecan Park	City of Irving	Sixth Street and Nursery Road	DAL3, STX3
Pecan Grove	City of Dallas	3443 W. Kiest	DAL3, STX3
Pecan Grove 1	City of El Paso	9130 Sweet Acacia Ln.	ELP1
Pecan Grove 2	City of El Paso	9100 Betel	ELP1
Pecan Park Greenway	City of Pflugerville	1601 E. Pecan Street	AUS2, STX6, STX9
Pegasus	City of Dallas	3031 Pegasus Park Dr.	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Pegasus Plaza	City of Dallas	1500 Main St.	DAL3, STX3
Pemberton Hill	City of Dallas	6424 Elam Rd.	IAH1
PEP MUELLER PARK	Harris County Precinct 2	14750 Henry Rd.	HOU2
Peplow Park	City of Robinson	201 Peplow Drive	AUS3
Perrin Homestead Park	City of San Antonio	4101 Swans Landing	SAT1x, STX7
Pershing Park	City of San Antonio	500 Sandmeyer St	SAT1x, SAT3, STX7
Peter Pan	City of Dallas	3802 Echobrook	STX2
Pfennig Park	City of Pflugerville	1301 W Pfennig Lane	AUS2, STX6, STX9
Pfluger Park	City of Pflugerville	515 City Park Road	AUS2, STX6, STX9
Pflugerville Heights Park	City of Pflugerville	18301 Stevie Ray Drive	AUS2, STX6, STX9
Phase 1	City of Martindale	FM 1979 & SE River Rd.	SAT2
Phillis Wheatley Park	City of San Antonio	723 Arthur St	SAT1x, SAT3, STX7
Piazza Italia Park	City of San Antonio	500 Columbus	STX7
Pickwell Park	City of San Antonio	6911 Pickwell Dr	SAT1x, SAT3, STX7
Pico Norte	City of El Paso	10655 Pico Norte Rd.	ELP1
Pike	City of Dallas	2807 Harry Hines	DAL3, STX3
Pinewood Park	Harris County Precinct 2	2800 Briarwick Ln	HOU2
Pioneer Cemetery	City of Dallas	1428 Young St.	DAL3, STX3
Pioneer Crossing Neighborhood Park	City of Austin	11544 Samsung Blvd	AUS2
Pioneer Park	City of Carrollton	1199 S. Main Street	STX2
Pirate Ship Park	City of Lewisville	2550 Sir Percival Lane	STX2
Pitner Pocket Park	City of Houston	8500 Pitner Rd.	STX5
Pittman Sullivan Park	City of San Antonio	1101 Iowa St	SAT1x, SAT3, STX7
Place Park	City of Socorro	301 Place Rd	ELP1
Play for All/Rabb Park	City of Round Rock	151 North A.W. Grimes Blvd	AUS2, STX6
Playa Drain Jog-Rec Path (Padilla to Liberty)	City of El Paso / PSB	100 Liberty to 8800 Padilla Dr	ELP1
Playa Drain Trail Segment 2 (Knights to Yarbrough)	City of El Paso	Between Bahia Kino & Elaine PL	ELP1
Pletz	Bexar County	1411 Picardie, San Antonio, TX 78219	SAT1x
Pletz County Park	Bexar County	1400 Picardie Dr	SAT1x, SAT3, STX7
Poage Park	City of Woodway	100 Poage Dr	AUS3
Pointer/Rupert	City of Dallas	4100 Pointer	DAL3, STX3
Ponderosa Park	City of Fort Worth	11725 Ponderosa Pine Dr	FTW4
Ponderosa Walking Park	Ponderosa Forest Utility District	333 Woerner Rd	HOU2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Poppy Avenue Greenspace	City of Houston	6538 Rena Street	HOU2
Portal San Fernando	City of San Antonio	100 Main Plaza	STX7
Post Oak	City of Irving	1014 Sixth St.	DAL3, STX3
Post Oak Park	City of Irving	1014 Sixth St.	DAL3, STX3
Prairie	City of Grand Prairie	110 S. Bagdad Rd.	DAL3, STX3
Prairie Park	City of Grand Prairie	110 S. Bagdad Rd.	DAL3, STX3
Prather Park	Town of Highland Park	4500 Drexel Avenue	STX3, STX3
Preston Ridge Trail	City of Dallas	From SH 190 To Coit/Haymeadow	STX2
Price Memorial Park	City of San Antonio	100 Dalewood Place	SAT1x, STX7
Prospect Park Natural Area	City of San Marcos	1409 Prospect Street	SAT2
Pueblo	City of Dallas	3226 Bataan St.	DAL3, STX3
Pueblo Viejo	City of El Paso	9300 Roseway Drive	ELP1
Purgatory Creek Natural Area - Lower Purgatory	City of San Marcos	2102 Hunter Road	SAT2
Purgatory Creek Natural Area - Upper Purgatory	City of San Marcos	1753 Valencia Way	SAT2
Pytel Park	City of San Antonio	6220 S New Braunfels Ave	SAT1x, SAT3, STX7
Quail Creek Neighborhood Park	City of Austin	1101 Mearns Meadow Blvd	AUS2
Quail Green West Park	City of Missouri, TX	0	SAHx
Quail Run	City of Duncanville	325 North Greenstone Lane	STX3, DAL3
Quail Run Park	City of Duncanville	325 North Greenstone Lane	STX3, DAL3
Quail Valley Golf Course	City of Missouri, TX	0	SAHx
Quail Valley North Park	City of Missouri, TX	0	SAHx
Queen Margaret Park	City of Lewisville	2596 Queen Margaret Drive	STX2
R.L. & Coral Johnson Park	City of Houston	9920 Porto Rico	STX5
Railroad Park	City of Lewisville	1301 S. Railroad Street	STX2, STX2, STX2
Rainbow Vista Park	City of El Paso	3001 Rich Beem	ELP1
Ralph T Cloud	City of El Paso	7975 Williamette Ave.	ELP1
Ramon Lucio Park	City of San Marcos	601 S CM Allen Parkway	SAT2
Ranches East Park	City of Fort Worth	3801 Lazy River Rand Rd	DFW7, FTW4
Ranchos Del Sol	City of El Paso	1100 Ted Houghton Dr.	ELP1
Rawhide Park & Trail	City of Farmers Branch	13701 Rawhide Parkway	STX2
Reata Park	City of Fort Worth	9489 Sills Way	DFW7, FTW4
Reatta Park	City of Justin	103 Reatta Dr	DFW7, FTW4
Recreation & Tennis Center	City of Missouri, TX	0	SAHx
Red Bird	City of Duncanville	401 West Redbird Lane	STX3, DAL3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Red Bird Park	City of Duncanville	401 West Redbird Lane	STX3, DAL3
Redwood Arena	City of Guadalupe	3520 Redwood Rd	SAT2
Reese McCord	City of El Paso	1900 Trawood Dr.	ELP1
Reflections	City of Irving	2100 W. Rochelle	DAL3
Reginald Moore Community Park	Harris County	13900 Sand Canyon Drive	HOU6, HOU6
Reimers Ranch Park	Travis County	23610 Hamilton Road	STX9
Renner	City of Dallas	1400 Renner Dr.	DAL3, STX3
Renner Greenbelt	City of Dallas	1500 Block Renner Dr.	DAL3, STX3
Reverchon	City of Dallas	3505 Maple	DAL3, STX3
Revolution Way Parkland	City of Missouri, TX	0	SAHx
Rex L Meador Park	City of Seabrook	2400 Hammer St.	STX4
Riata Neighborhood Park	City of Austin	12401 Riata Trace Parkway	STX6
Richard Moya Park	Travis County	10001 Burleson Road	STX9
Richard P. Doss Park	City of Houston	2500 Frick Rd.	STX5
Ricketts Branch	City of Dallas	7300 Albert Williams Dr.	IAH1
Ridgeview Farms Park	City of Fort Worth	8628 Prairie Dawn Dr	DFW7
Ridgeview Park	City of Missouri, TX	0	SAHx
Ringtail Ridge Natural Area	City of San Marcos	1818 Old Ranch Road 12	SAT2
Rio Bosque	City of El Paso / UTEP	10716 Socorro Rd.	ELP1
Rio Vista Community Center	City of Socorro	901 N Rio Vista Rd	ELP1
Rio Vista Park	City of San Marcos	555 Cheatham Street	SAT2
Rio Vista Park	City of Socorro	124 Horizon Blvd	ELP1
River Ealk	City of San Antonio	S Alamo to Lexington	STX7, SAT1x
River Gable Park	City of Sugar Land	River Gable Court at Stone River Lane	HOU6
River Park Splash Pad	City of Sugar Land	5875 Summit Creek	HOU6
River Ridge Park	City of San Marcos	301 River Ridge Parkway	SAT2
River Walk	City of San Antonio	S Alamo to Lexington	STX7, SAT1x
Riverchase Park	City of Coppell	1401 Glade Point Drive	STX2
Riverside	City of El Paso	7600 Alameda Ave.	ELP1
Riverside Golf Course	City of San Antonio	203 McDonald	STX7
Riverstone Property Parkland	City of Missouri, TX	0	SAHx
Roane Park	City of Missouri, TX	0	SAHx
Roanoke Community Park	City of Roanoke	201 Park Drive	DFW7, FTW4
Roanoke Park	City of Roanoke	107 Hillsborough Drive	FTW4
Roanoke Skate Park	City of Roanoke	750 Cannon Parkway	FTW4
Robert L B Tobin Park	City of San Antonio	2126 NE 410	SAT1x, SAT3, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Rock Hollow Park	City of Round Rock	1415 Apollo Circle	STX6
Rocky Crest Park	City of Lancaster	625 E. Main Street	IAH1
Rodeo Park	City of Irving	9801 Rodeo Drive	STX2
Rolling Oaks Memorial Center	City of Coppell	400 Freeport Pkwy	STX2
Romana Plaza	City of San Antonio	100 Camden St	STX7
Ron Slockett Memorial Park	City of Sugarland	12821 Nantucket Dr	SAHx
Ron Slockett Park	City of Sugar Land	12821 Nantucket Drive	HOU6
Roosevelt Park	City of San Antonio	331 Roosevelt Ave	STX7
Rose Haggar	City of Dallas	18100 Campbell Rd.	STX2
Rose Meadows	City of Irving	1505 Rose St.	DAL3, STX3
Rosemeade	City of Dallas	18740 Marsh Lane	STX2
Rosemeade Dog Park	City of Carrollton	1330 E Rosemeade Parkway	STX2
Rosemeade Park	City of Carrollton	1330 E. Rosemeade Parkway	STX2
Rosslyn Park	City of Houston	6500 Pinemont Drive	HOU2
Round Rock West Park	City of Round Rock	500 Round Rock West Drive	AUS2, STX6
Roy Crawford Park	City of Lancaster	2415 Sunny Meadow Drive	IAH1
Royal	City of Dallas	3461 Royal Lane	STX2
Royal & Annie Smith Park	City of Southlake	3045 Johnson Road	FTW4
Royal Pointe Park	City of Pflugerville	18712 Candace Loop	AUS2, STX6, STX9
Ruby Neighborhood Park	City of Austin	10711 Joseph Clayton Drive	AUS2
Running Bear	City of Irving	2601 S. Story Road	DAL3, STX3
Running Bear Park	City of Irving	2601 S. Story Road	DAL3, STX3
Runyon Creek Greenbelt	City of Dallas	1900 Camp Wisdom	IAH1
Ruthmeade	City of Dallas	800 South Van Buren	DAL3, STX3
Ryderwood Walking Trail	City of Horizon City	Ryderwood Ave	ELP1
S.T.A.R. Sports Complex	City of San Antonio	5103 David Edwards Dr	SAT1x, STX7
Sagewood Park	City of Saginaw	1051 Sagewood Drive	DFW7
Sal Berroteran	City of El Paso	2171 Sun Country Dr.	ELP1
Salado Creek Greenway	City of San Antonio	North Loop Rd	SAT1x, SAT3
Salvador Rivas, Jr.	City of El Paso	12515 Tierra Norte Dr.	ELP1
Sam Houston Trail Park	City of Irving	101 E. Interstate 635	STX2
Samuell-Beaumont	City of Dallas	1600 Harwood St.	DAL3, STX3
San Elizario Placita	City of San Elizario	1521 San Elizario Rd	ELP1
San Jacinto Plaza	City of Dallas	St. Paul at San Jancinto	DAL3, STX3
San Marcos Discovery Center	City of San Marcos	430 Riverside Drive	SAT2, SAT2
San Marcos Plaza Park	City of San Marcos	201 N CM Allen Parkway	SAT2
San Marcos Wildlife Habitat	City of San Marcos	640 Cheatham Street	SAT2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
San Pedro Driving Range	City of San Antonio	6102 San Pedro Ave	STX7
San Pedro Springs Park	City of San Antonio	1315 San Pedro Ave	STX7
SAND CANYON PARK	Harris County	13900 Sand Canyon Drive	HOU6, HOU6
Sandy Creek Park	Travis County	9500 Lime Creek Road	STX9
Sandy Lake Cricket Practice	City of Carrollton	2354 Sandy Lake Rd	STX2
Sante Fe Trail	City of Dallas	White Rock Lake to Hill St.	STX3
Sante Fe Trestle Trail	City of Dallas	8th St. to Riverfront	DAL3, STX3
Saratoga Park	City of Fort Worth	12633 Saratoga Springs Circle	DFW7, FTW4
Sargent	City of Dallas	2825 Sargent Rd.	IAH1, STX3
Saxony Linear Park	City of Pflugerville	Rocky Creek Drive and FM 685	AUS2, STX6, STX9
Scates Park	City of San Antonio	434 N Meadowlane Dr	SAT1x, STX7
Schaefer Library Park	City of San Antonio	6322 US Hwy 87 E	SAT1x, SAT3
Schiveley R/C Airfield Park	Harris County	13939 Kuykendahl Road	HOU2, SAH1
Schulle Canyon Natural Area	City of San Marcos	100 Ridgewood Lane	SAT2
Schwartz Park	City of Houston	8203 Vogue Lane	STX5
Scofield Farms Neighborhodd Park	City of Austin	12901 Scofield Farms Drive	STX6, AUS2
Seabrook Sports Complex	Harris County	1805 Meyer Rd.	STX4
Seaton	City of Dallas	3200 Seaton	IAH1
Secluded Willow Park at Falcon Pointe	City of Pflugerville	1701 Secluded Willow Cove	AUS2, STX6, STX9
Seley Park	City of Waco	1800 Bosque Blvd	AUS3
Selma Hughes Park	Travis County	11921 Selma Hughes Park Road	STX9
Sendera Ranch Park	City of Fort Worth	14151 Sendera Ranch Blvd	FTW4
Senter	City of Irving	901 Senter Road	DAL3, STX3
Senter Park	City of Irving	901 Senter Road	DAL3, STX3
Serna Elementary School Park	City of San Antonio	2569 NE 410	SAT1x, SAT3, STX7
Sessom Creek Natural Area	City of San Marcos	Chestnut Street, Sessom Drive	SAT2
Settlement Park	City of Round Rock	1401 David Curry Loop	STX6
Settlers Valley Greenbelt	City of Pflugerville	Settlers Valley Drive and Oxford Drive	AUS2, STX6, STX9
Settlers Way Park	City of Sugarland	3268 Sam Houston Dr	SAHx
Shady Grove Trail	City of Irving	799 W. Vilbig St.	DAL3, STX3
Shady Lane Park	City of Houston	10100 Shady Lane	HOU2
Sharrock/Niblo	City of Dallas	5429 Kiwanis Rd.	DAL3, STX3
Shaw	City of Dallas	3600 Ladd St.	DAL3, STX3
Shepherd Park	City of Houston	4725 Brinkman Street	HOU2
Silver Creek Pocket Park	City of Austin	13007 Silver Creek Drive	AUS2, STX6

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Sinclair Park	City of Fort Worth	9889 Sinclair St	DFW7, FTW4
Singing Hills	City of Dallas	1919 Crouch	IAH1
Singing Hills Annex	City of Dallas	6405 Patrol Way	IAH1
SJ Gutherie Park	City of Waco	3400 Brookview Dr	AUS3
Skate Park	City of San Marcos	627 E Hopkins Street	SAT2
Skate Spot	City of Pflugerville	200 Immanuel Road	AUS2, STX6, STX9
Skyline Park	City of San Antonio	800 Green Valley Dr	SAT1x, SAT3, STX7
Sleepy Hollow	City of Dallas	1200 Sleepy Hollow Ln.	DAL3, STX3
Smart Financial Centre Plaza	City of Sugar Land	18111 Lexington Blvd	HOU6
Somerset Park	City of Round Rock	1814 Taron Cove	STX6
South Central	City of Dallas	4753 Fellows Ln.	IAH1
South Waco Park	City of Waco	2815 Speight Ave	AUS3
Southeast Metro Park	Travis County	4511 Hwy 71 E	STX9
Southside Lions Park	City of San Antonio	3100 Hiawatha	SAT1x, SAT3, STX7
Southwest	City of Irving	2800 Shady Grove Road	DAL3, STX3
Southwest Park	City of Irving	2800 Shady Grove Road	DAL3, STX3
Spanish Govenors Palace	City of San Antonio	105 Plaza de Armas	STX7
Sparks Park	City of El Paso	12899 Sparks dr	ELP1
SPC Adrian Garcia	City of El Paso	520 Southside Road	ELP1
Spring Lake Natural Area	City of San Marcos	685 Line Kiln Road	SAT2
Spring Trail Park	City of Irving	Riverside at Royal Lane	STX2
Spring Valley Village City Park	City of Houston	1025 Campbell Road	STX5
Springbrook Apartments Parkland	City of Pflugerville	New Meister Lake and Springbrook Road	AUS2, STX6, STX9
Springbrook Park	City of Austin	1800 Picadilly Road	AUS2, STX6
Springbrook Park Greenbelt	City of Pflugerville	Shultz Lane and North Heatherwilde Blvd	AUS2, STX6, STX9
Stafford	City of Dallas	1103 Stafford Ave.	DAL3, STX3
StaMo Sports Park	City of Missouri, TX	0	SAHx
Standridge Memorial Park	City of Carrollton	Rosemeade Circle	STX2
Stanford Park	City of Lancaster	791 Stanford Drive	IAH1
Stanton Heights	City of El Paso	11520 Edward James	ELP1
STAR Sports Complex	City of San Antonio	5103 David Edwards Dr	SAT1x, STX7
Starduster Park	City of El Paso	834 Airship Place	ELP1
Stark Park	City of Round Rock	1409 Provident Lane	AUS2, STX6
Steeplechase Park	City of Plano	1500 Balcones Drive	STX2
Stella Park	City of Round Rock	803 Nancy Drive	STX6
Stemmons	City of Dallas	1200 Oak Lawn Ave.	DAL3, STX3

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Stemmons Plaza	City of Dallas	1500 Jefferson Blvd.	DAL3, STX3
Sterling Knoll Park	City of Sterling Knoll	Bratten Ln. and Shealy St.	STX4
Stevens Golf Course	City of Dallas	1005 North Montclair	DAL3, STX3
Stevens Park	City of Dallas	800 N. Hampton	DAL3, STX3
Stevie Ray Vaughan	City of Cockrell Hill	4334 West Jefferson Blvd.	STX3, DAL3
Stevie Ray Vaughan Park	City of Cockrell Hill	4334 West Jefferson Blvd.	STX3, DAL3
Stone	City of Dallas	810 North Edgefield	DAL3, STX3
Stone Hill Park	City of Pflugerville	1124 Town Center Drive	AUS2, STX6, STX9
Stone Place Mall	City of Dallas	100 Stone Place	DAL3, STX3
Stone Rock Park	City of El Paso	14241 Strata Rock Dr.	ELP1
Stony Passage Park	City of Lewisville	822 Stony Passage Ln	STX2
Stuebner-Airline Park	City of Houston	9201 Veterans Memorial Blvd	HOU2
Sue Barnett-43rd Triangle	City of Houston	750 43rd Street	HOU2
Sugar Lakes Park	City of Sugar Land	120 Bayview Drive	HOU6, SAHx
Sugar Mill Park	City of Sugar Land	13800 Hidden Lake Lane	HOU6, SAHx
Sul Ross Park	City of Waco	500 N 14th St	AUS3
Summerbrook Park	City of Fort Worth	4315 Huckleberry Dr	DFW7
Summerfields Chisholm Park	City of Fort Worth	3970 Malibu Sun Dr	DFW7
Summerfields NW Park	City of Fort Worth	7755 Buttonwood Dr	DFW7
Sun Valley	City of Dallas	Sun Valley at Fordham	DAL3, IAH1, STX3
Sunny Brook Park	City of El Paso	14577 Alton Oaks Ave.	ELP1
Sunrise	City of Irving	1809 E. Union Bower	DAL3, STX3
Sunrise Creek Park	City of Hutchins	809 North Denton Street	IAH1
Sunrise Park	City of Irving	1809 E. Union Bower	DAL3, STX3
Sunrise Park	City of San Antonio	6525 Binz-Engleman Rd	SAT1x, SAT3, STX7
Sunset Hills North Park	City of Fort Worth	3600 Sunset Hills Dr	DFW7, FTW4
Susan C. Kellner Pocket Park	City of Houston	12005 Kimberley Ln.	STX5
Swampy Marsh Park	City of San Antonio	100 Medford	SAT1x, SAT3, STX7
Swenson Farms Linear Park	City of Pflugerville	Pfennig Lane and Black Locust Drive	AUS2, STX6, STX9
Swenson Park	City of Pflugerville	Pfennig Lane and Swenson Farms Blvd	AUS2, STX6, STX9
Swift Memorial Park	City of San Marcos	200 Monterrey Street	SAT2
Sycamore	City of Grand Prairie	2800 Reforma Dr	DAL3, STX3
Sycamore Park	City of Grand Prairie	2800 Reforma Dr	DAL3, STX3
Sylvan Beach Park	Harris County	636 N Bayshore Dr.	STX4
Sylvan Rodriguez Park	City of Houston	1201 Clear Lakke City Blvd.	STX4
T.W. Richardson Grove	City of Irving	333 E. Interstate Highway 635	STX2
Takas Park	City of Windcrest	9310 Jim Seal Drive	STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Takas Park	City of San Antonio	9310 Jim Seal Dr	SAT3
Tama	City of Dallas	1300 Baden	DAL3, STX3
Tanglewood Park	City of Houston	5801 Woodway Drive	STX5
Taylor Lake Village Community Park	City of Taylor Lake Village	500 Kirby Rd	STX4
TC Jester Bark Park	City of Houston	4201 T C Jester Boulevard	STX5
Teagarden Place	City of Dallas	9300 Crimson Court	IAH1
Tech Ridge Greenbelt	City of Austin	E Parmer Lane	AUS2
Ted Richardson Park	City of San Elizario	13066 Alarcon Rd	ELP1
Tehama Ridge	City of Fort Worth	2137 Ravens Nest Dr	FTW4
Tehama Ridge Park	City of Fort Worth	2137 Ravens Nest Dr	DFW7, FTW4
Tehama Trails Park	City of Fort Worth	9906 Butte Meadows Dr	DFW7, FTW4
Temple Trails Park	City of Farmers Branch	12800 Templeton Trail	STX2
Ten Mile Creek Preserve	City of Lancaster	900 Nokomis Road	IAH1
Terry Hershey Park and Hike & Bike Trail	City of Houston	15200 Memorial Dr.	STX5, STX5
Texas Avenue Park	City of Webster	17100 N. Texas Ave.	STX4
The Crown Festival Park	City of Sugar Land	18355 Southwest Freeway	HOU6
The Duck Pond Park	City of Coppell	400 E Bethel School Road	STX2
The Good Link Linear	City of Grand Prairie	1730 Lower Tarrant Dr	DAL3
The Grove	City of Farmers Branch	12700 Denton Drive	STX2
The Parks at Town Center	City of Keller	1100 Bear Creek Parkway	DFW7
The Square at Old Town	City of Coppell	768 W Main Street	STX2
Thomas A. Glazier Pocket Park	City of Houston	16600 Pine Forest Ln.	STX5
Thomas Hill	City of Dallas	Ewing St. at 17th	DAL3, STX3
Thomas Jefferson Park	City of Irving	1201 Hidden Ridge Road	STX2
Thomas L James Park	City of Sugarland	201 Venice St	SAHx
THOMAS L. JAMES PARK	City of Sugar Land	201 Venice Street	HOU6
Thomas Manor	City of El Paso	7901 Knights Dr.	ELP1
Thomas R. Wussow Park	North Houston District	500 Greens Road	HOU2
Three Waters	City of Irving	1010 W Grauwyler Road	DAL3, STX3
Three Waters Park	City of Irving	1010 W Grauwyler Road	DAL3, STX3
Thurgood Marshall	City of Dallas	5150 Mark Trail Way	DAL3, IAH1, STX3
Thweatt Park	City of Coppell	101 N Coppell Road	STX2
Tierra Buena Park	City of El Paso	12701 Pebble Hills	ELP1

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Tierra Del Este 68, 78 Hike & Bike Trail	City of El Paso	Montwood Dr.	ELP1
Tierra Del Este 74, 81B, 83 Linear	City of El Paso	14500 Charles Foster (John Hayes to Tierra Garden) and 14500 Mike Price (Pebble Hills to Montwood)	ELP1
Tierra Del Este Linear A (Holly Springs Linear Park)	City of El Paso	Rich Beam to John Hayes	ELP1
Tierra Del Este Linear B (Holly Springs Linear Park)	City of El Paso	John Hayes to Tim Floyd	ELP1
Tierra Del Este Unit 83	City of El Paso	14800 Tierra Fortaleza Dr	ELP1
Tierra Del Este Unit 89	City of El Paso	14500 TIerra Spring Ave	ELP1
Timbercreek Park	City of Carrollton	1717 W. Rosemeade Parkway	STX2
Timberglen	City of Dallas	3810 Timberglen Rd.	STX2
Timberland	City of Fort Worth	4400 Keller Haslet Rd	FTW4
Timberland Park	City of Fort Worth	4400 Keller Haslet Rd	FTW4
Timmermann Park	City of Manor	12615 Skimmer Run	AUS2, STX9
Tipton	City of Dallas	3607 Maddeline	DAL3, STX3
Tobin Library Park	City of San Antonio	4134 Harry Wurzbach	SAT1x, STX7
Toepperwin Xeriscape Park	City of Live Oak	12300 Toepperwein Road	STX7
Tom Hughes Park	Travis County	12714 Hughes Park Road	STX9
Tommie M. Allen	City of Dallas	7071 Bonnie View Rd.	IAH1
Town Center Park	City of DeSoto	211 E Pleasant Run Road	IAH1
Town Center Plaza	City of Coppell	255 Parkway Blvd	STX2
Townsend Park	City of DeSoto	1001 N Polk Street	IAH1
Trail Blazer Park	City of Waco	1101 Harris Creek Rd	AUS3
Trails of Fossil Creek Park	City of Fort Worth	10451 Fossil Hollow Dr	DFW7
Travis Park	City of San Antonio	301 E Travis St	SAT1x, STX7
Travis White	City of El Paso	1700 Wedgewood Dr.	ELP1
Trinity River Audubon Center	City of Dallas	6500 S Great Trinity Forest Way	IAH1
Trinity River Greenbelt	City of Dallas	3700 Sylvan	DAL3, STX3
Trinity River Mountain Creek Preserve	Dallas County	1005 East Hunter Ferrell Rd.	DAL3, STX3
Trinity Strand Trail	City of Dallas	From Stemmons Fwy to Medical District Dr.	DAL3, STX3
Trinity View	City of Irving	2221 E. Highway 356	DAL3, STX3
Trinity View Park	City of Irving	2221 E. Highway 356	DAL3, STX3
Trophy Club Park	Town of Trohpy Club	2885 Trophy Park Drive	FTW4
Troxell Park	City of Missouri, TX	0	SAHx
Turner (Sylvester) Park	City of Houston	2800 West Little York Road	HOU2

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Turner Plaza	City of Dallas	500 East Jefferson Blvd.	DAL3, STX3
Turtle Creek Blvd. Median	City of Dallas	Carlisle St. To Avondale Ave.	DAL3, STX3
Turtle Creek Parkway	City of Dallas	3636 Turtle Creek Blvd.	DAL3, STX3, DAL3, STX3
Twin Falls	City of Dallas	6300 South Polk Street	DAL3, IAH1, STX3
Twin Mills Park	City of Fort Worth	5100 Wild Oats Dr	DFW7
Twin Wells	City of Irving	1900 E Shady Grove Road	DAL3, STX3
Twin Wells Park	City of Irving	1900 E Shady Grove Road	DAL3, STX3
University Village Park	City of Round Rock	Sandy Brook Drive	STX6
Urban Art Island Park	City of San Antonio	N St Mary's and W Josephine	SAT1x, STX7
Valle del Sol Park	City of Socorro	Valle del Sol Subdivision (no other locational information)	ELP1
Valley View	City of Dallas	7000 Valley View Road	STX2
Valley View Park	City of Hutchins	200 Glenview Drive	IAH1
Valley View West	City of Dallas	13101 Hillcrest Road	STX2
Ventanas Cove	City of El Paso	3186 Blue Dirt Cir.	ELP1
Ventanas Destiny	City of El Paso	3184 Rustic Hidden Dr.	ELP1
Ventanas Spring Park	City of El Paso	3112 Spring Willow Drive	ELP1
Ventanas Willow Park	City of El Paso	3210 Spring Willow Drive	ELP1
Verona Park	City of Lancaster	2390 Verona Drive	IAH1
Verona Park	City of Pflugerville	19130 Elk Horn Drive	AUS2, STX6, STX9
Veterans	City of Dallas	4600 Veterans Dr.	IAH1, STX3
Veterans Memorial Park	City of Carrollton	1700 Keller Springs	STX2
Veterans Memorial Park	City of Grand Prairie	901 Conover Dr.	DAL3
Veterans Memorial Park	City of Irving	644 Rock Island Road	DAL3, STX3
Veterans Memorial Park	Harris County Precinct 2	1800 Tidwell Road	HOU2
Veterans Memorial Plaza	City of San Antonio	100 Auditorium Circle	SAT1x, STX7
Veterans Park	City of Round Rock	600 Pecan Avenue	AUS2, STX6
Veterans Park Event Center	City of Grand Prairie	925 Conover Dr	DAL3
Victoria Gardens Park	City of Houston	4830 Werner Street	HOU2
Victoria Park	City of Irving	3051 W. Northgate	STX2
Victory Gardens Park	City of San Marcos	300 Roosevelt Street	SAT2
Vietnam Veterans Park	City of San Marcos	320 Mariposa Street	SAT2
Viking Hills Park	City of Waco	7042 Viking Dr	AUS3
Village Park	City of San Antonio	4703 Village View	SAT1x, SAT3, STX7
Villawood Linear Park	City of Coppell	575 Villawood Drive	STX2
Vincent & Berkley Dawson Park	City of San Antonio	803 N Cherry	SAT1x, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Vine Creek Park	City of Pflugerville	19600 Landmark Drive	AUS2, STX6, STX9
Vineyards at Heritage Park	City of Fort Worth	5280 Alta Loma Dr	FTW4
Vinyards of Heritage Park	City of Fort Worth	5280 Alto Loma Dr	DFW7, FTW4
Vitruvian Trail	City of Farmers Branch	Vitruvian Trail	STX2
W. E. "Bill" Crowley Park	Harris County Precinct 2	5100 Lauder Road	HOU2
W.J. Thomas Park	City of Carrollton	1955 N. Perry Road	STX2
W.O. Harrington Park	City of Irving	5350 Valley View Lane	STX2
Waco Lake Park System	USACE	3001 Zoo Park Drive	AUS3
Waco Mammoth National Monument	City of Waco	6220 Steinbeck Bend Dr.	AUS3
Waco Riverwalk	City of Waco	Baylor Univ. to Cameron Park	AUS3
Wagging Tail	City of Dallas	5841 Keller Springs Rd.	STX2
Waggoner	City of Grand Prairie	2122 N Carrier Pkwy	DAL3
Wagon Wheel Park	City of Coppell	345 Freeport Parkway	STX2, STX2
Walford	City of Dallas	1720 North Haskell	STX3
Walnut Bend Neighborhood Park	City of Austin	10621 Pioneer Farms Drive	AUS2
Walnut Creek Metro Park	City of Austin	12138 N Lamar Blvd	AUS2
Walnut Creek Municipal Park	City of Austin	12138 North Lamar Blvd	STX6
Walnut Hill	City of Dallas	10011 Midway Road	STX2
Walter Clarke	City of El Paso	1519 Bob Hope Dr.	ELP1
Walter E. Long MP	City of Austin	6620 Blue Bluff Road	AUS2
Walter Hall Park	Galveston County	8007 SH 3 N	STX4
Ward Steenson Park	City of Carrollton	2050 E. Jackson Road	STX2
Warren Park	City of Hewitt	450 S Old Temple Rd	AUS3
Watonga Parkway	City of Houston	4100 Watonga Blvd	HOU2
Webb Chapel	City of Dallas	11428 Cromwell	STX2
Webberville Park	Travis County	2205 Park Lane	STX9
Weichsel	City of Dallas	5700 Cedar Springs Rd.	DAL3, STX3
Wellington	City of Fort Worth	1737 Stowers Tr	FTW4
Wells Creek Green Belt	City of Austin	13120 Metric Blvd	STX6, AUS2
Wells Creek Greenbelt	City of Austin	13120 Metric Blvd	STX6, AUS2
Wells Point Park Soccer Complex	City of Pflugerville	800 S Heatherwilde Blvd	AUS2, STX6, STX9
Welwyn Park	City of Jersey Village	15304 Welwyn Drive	STX5
Wesley Place Park	City of San Antonio	300 Eleanor	SAT1x, SAT3, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Wessendorf Park	City of Richmond	500 Preston Street	HOU6
West	City of Irving	530 Davis Drive	DAL3
West Fork Ranch Park	City of Fort Worth	2350 Angoni Way	DFW7
West Mount Houston Park	City of Houston	10300 N Houston-Rosslyn Road	HOU2
West Picadilly Lane	City of Pflugerville	West Picadilly Drive and Fitzgerald Lane	AUS2, STX6, STX9
West Texas Estates	City of El Paso	12746 Valentine	ELP1
West Tidwell Park	City of Houston	4700 W Tidwell	HOU2
West Trinity Heights	City of Dallas	1900 Harlandale	DAL3, IAH1, STX3
Westhaven	City of Dallas	4600 Lynnacre Dr.	DAL3, STX3
Westmoreland	City of Dallas	3601 W. Illinois Ave.	DAL3, STX3
Westmount	City of Dallas	1300 Westmount Ave.	DAL3, STX3
Wheatland	City of Dallas	2115 W. Wheatland Road	IAH1, STX3
Wheatly Middle School Park	City of San Antonio	415 Gabriel	SAT1x, SAT3, STX7
Whispering Rock Park	City of El Paso	13954 Vaquero Rock Dr.	ELP1
White Rock Creek Trail	City of Dallas	Hillcrest Park to Valley View West Park	STX2
Whitehall Park	City of Woodway	7600 Fresno St	AUS3
Wide World of Parks	City of Grand Prairie	1600 Lone Star Pkwy	DAL3, STX3
Wilbarger Creek Park	City of Pflugerville	1211 Kingston Lacy Blvd	AUS2, STX6, STX9
Wilbert Austin, Sr. Park	City of Waco	401 Hood	AUS3
Wild Rose Heritage Center	City of Keller	133 Bates Street, Keller, Texas	FTW4
William and Eleanor Crook River Park	City of San Marcos	430 Riverside Drive	SAT2, SAT2
William B. Dean M.D.	City of Dallas	3636 Turtle Creek Blvd.	DAL3, STX3, DAL3, STX3
William Blair Jr.	City of Dallas	3000 Rochester	IAH1
William Houston Park	City of Saginaw	620 Park Center	DFW7
Williams Park	City of Houston	15000 McConn St.	STX4
Willis Coves Preserve	City of Keller	400 Rapp Rd, Keller, Texas 76248	FTW4
Willoughby	City of Dallas	9000 Willoughby	IAH1
WILLOW FORK PARK	Willow Fork Drainage District	23440 Cinco Ranch Blvd	HOU6
Willow Ridge Park	City of Fort Worth	11590 Mesa Crossing Dr	DFW7, FTW4
Willow Springs Golf Course	City of San Antonio	202 AT and T Center Pkwy	SAT1x, STX7
Woodland Springs Park	City of Fort Worth	11801 Copper Creek Dr	DFW7, FTW4
Woodlands Park Nature Trail	City of Manor	Crowndale Drive	AUS2, STX9
Woodridge Park	City of Irving	3516 N. Story Road	STX2
Woodway Family Center	City of Woodway	1100 Estates Dr	AUS3
Woodway Park	City of Woodway	Estates Drive	AUS3
Woody Tucker Park	City of San Antonio	Huisache & Kings Court	SAT1x, STX7

TABLE C-1
SECTION 4(F) RESOURCES IN THE STUDY AREA

Name	Owner	Address	PADDC(s)
Wuthrich Park	City of Pflugerville	99 Mountain View Drive	AUS2, STX6, STX9
Wyanoke Park	City of San Antonio	Wyanoke Dr and W Hathaway Dr	SAT3
Wyche	City of Irving	2850 W. Pioneer Drive	DAL3
Wynnewood	City of Dallas	2300 Wynnewood	DAL3, STX3
Wynnewood Parkway	City of Dallas	1333 Zang Blvd.	DAL3, STX3
Yett Creek Neighborhood park	City of Austin	12538 Riata Vista Circle	STX6
Youngblood Park	City of Robinson	459 E Moonlight Drive	AUS3
Ysleta	City of El Paso	9068 Socorro Rd.	ELP1
Ysleta Pedestrian Plaza	City of El Paso	Alameda at Candelaria	ELP1
Zola Park	City of Pflugerville	17401 Zola Lane	AUS2, STX6, STX9

Appendix D

Section 106 Resources and Agency Consultation

Appendix D-1
SHPO Consultation

Table D-1

Historic Resources in the APE – AUS2 PADDC

Resource Name	Significance
Barr, William Braxton, House	NRHP Listed
Merrell, Capt. Nelson, House	NRHP Listed
Round Rock Commercial Historic District	NRHP Listed
Archeological Districts of North Fork & Granger Lake	NRHP Eligible
Archeological Site 41TV291	NRHP Eligible
Archeological Site 41TV383	NRHP Eligible
Archeological Site 41wm570	NRHP Eligible
Archeological Site No. 41TV1106	NRHP Eligible
Archeological Site No. 41TV723	NRHP Eligible
Archeological Site No. 41TV735	NRHP Eligible
Archeological Site No. 41TV737	NRHP Eligible
Archeological Site No. 41TV738	NRHP Eligible
Archeological Site No. 41TV741	NRHP Eligible
Archeological Site No. 41TV742	NRHP Eligible
Archeological Site No. 41TV743	NRHP Eligible
Archeological Site No. 41TV747	NRHP Eligible
Archeological Site No. 41TV748	NRHP Eligible
Archeological Site No. 41TV749	NRHP Eligible
Archeological Site No. 41TV754	NRHP Eligible
Archeological Site No. 41TV755	NRHP Eligible
Archeological Site No. 41TV757	NRHP Eligible
Archeological Site No. 41TV758	NRHP Eligible
Archeological Site No. 41TV759	NRHP Eligible
Archeological Site No. 41TV760	NRHP Eligible
Archeological Site No. 41TV763	NRHP Eligible
Archeological Site No. 41TV766	NRHP Eligible
Archeological Site No. 41TV772	NRHP Eligible
Archeological Site No. 41TV778	NRHP Eligible
Archeological Site No. 41TV779	NRHP Eligible
Archeological Site No. 41TV793	NRHP Eligible
Archeological Site No. 41TV794	NRHP Eligible
Archeological Site No. 41TV795	NRHP Eligible
Archeological Site No. 41TV796	NRHP Eligible
Archeological Site No. 41TV797	NRHP Eligible
Archeological Site No. 41TV800	NRHP Eligible
Archeological Site No. 41TV804	NRHP Eligible
Archeological Site No. 41TV805	NRHP Eligible
Archeological Site No. 41TV807	NRHP Eligible

Table D-1
Historic Resources in the APE – AUS2 PADDC

Resource Name	Significance
Archeological Site No. 41TV809	NRHP Eligible
Archeological Site No. 41TV822	NRHP Eligible
Archeological Site No. 41TV823	NRHP Eligible
Archeological Site No. 41TV824	NRHP Eligible
Archeological Site No. 41TV825	NRHP Eligible
Archeological Site No. 41TV828	NRHP Eligible
Archeological Site No. 41TV833	NRHP Eligible
Archeological Site No. 41TV834	NRHP Eligible
Archeological Site No. 41TV835	NRHP Eligible
Archeological Site No. 41TV836	NRHP Eligible
Archeological Site No. 41TV837	NRHP Eligible
Archeological Site No. 41TV839	NRHP Eligible
Archeological Site No. 41TV841	NRHP Eligible
Archeological Site No. 41TV842	NRHP Eligible
Archeological Site No. 41TV875	NRHP Eligible
Blockhouse Creek Archeological District	NRHP Eligible
Historical Site 41wm575	NRHP Eligible
Site 41WM8	NRHP Eligible
Evangelical St. John Lutheran Cemetery	State Listed
1/2 Mile to the Site of Kenney's Fort	State Listed
A. J. and Carolina Anderson House	State Listed
Anti-Slaveholding Union Baptist	State Listed
Anti-Slaveholding Union Baptist Cemetery	State Listed
Barr Mansion	State Listed
Bass, Sam	State Listed
Bloor House	State Listed
Bohls House	State Listed
Boyce Family Cemetery	State Listed
Bratton	State Listed
Bratton Cemetery	State Listed
Broom Factory Building	State Listed
Cabin from Gabriel Mills Area	State Listed
Capitol Memorial Park	State Listed
City of Manor	State Listed
Clayton Vocational Institute	State Listed
Decker Swedish Evangelical Free Church and Cemetery	State Listed
Dessau Cemetery	State Listed
Early Commercial Building	State Listed

Table D-1
Historic Resources in the APE – AUS2 PADDC

Resource Name	Significance
Evangelical Free Church Memorial Garden Cemetery	State Listed
Evangelical Lutheran Church of Dessau	State Listed
Femster Cemetery	State Listed
Fortress Home	State Listed
Ganzert	State Listed
Gregg Cemetery	State Listed
Hill Family Cemetery	State Listed
Hutto Cemetery	State Listed
Hutto Lutheran	State Listed
Hutto Lutheran Cemetery	State Listed
Immanuel Evangelical Lutheran Church	State Listed
Immanuel Lutheran Church Cemetery	State Listed
Jourdan-Giles Cemetery	State Listed
Klattenhoff House	State Listed
M.B. Norman House	State Listed
Major Robert McNutt	State Listed
Manor Cemetery	State Listed
McNutt	State Listed
Melber Lane Cemetery on old Faley- Saul property Cemetery	State Listed
Memorial Hill Park	State Listed
Merrilltown Cemetery	State Listed
Methodist Episcopal Church of Mount Salem Cemetery	State Listed
Nelson-Crier House	State Listed
New Sweden Evangelical Lutheran Church	State Listed
New Sweden Lutheran Church Cemetery	State Listed
Oertli Dairy	State Listed
Olson House	State Listed
Oxley	State Listed
Palm Valley Lutheran	State Listed
Palm Valley Lutheran Church	State Listed
Palm, Andrew J., House	State Listed
Pfluger Cemetery	State Listed
Pflugerville	State Listed
Pflugerville Schools	State Listed
Prairie Hill	State Listed
Rector Cemetery	State Listed
Reinke, Otto, Building	State Listed
Rose Hill Cemetery	State Listed

Table D-1
Historic Resources in the APE – AUS2 PADDC

Resource Name	Significance
Round Rock	State Listed
Santa Maria Cemetery	State Listed
Saul	State Listed
Saul Cemetery	State Listed
Shiloh	State Listed
Shiloh Black	State Listed
Shiloh-McCutcheon Cemetery	State Listed
St. John Church	State Listed
St. Mary Missionary Baptist Church	State Listed
St. Mary's	State Listed
St. Mary's Baptist	State Listed
St. Mary's Catholic	State Listed
St. Stephen's Missionary Baptist Church	State Listed
The Double File Trail	State Listed
The Gault Homestead	State Listed
Trinity Lutheran College	State Listed
Walnut Creek Baptist Church	State Listed
Walnut Creek Cemetery	State Listed
Walnut Creek Church Cemetery	State Listed
Waters Park	State Listed

Table D-2
Historic Resources in the APE – AUS3 PADDC

Resource Name	Significance
Artesian Manufacturing and Bottling Company Building	NRHP Listed
Castle Heights Historic District	NRHP Listed
Cooper, Madison, House	NRHP Listed
Earle-Napier-Kinnard House	NRHP Listed
Forsgard Homestead	NRHP Listed
Fort House	NRHP Listed
Hippodrome	NRHP Listed
Mann, John Wesley, House	NRHP Listed
McClennan County Courthouse	NRHP Listed
McCulloch House	NRHP Listed
McDermott Motors Building	NRHP Listed
Praetorian Building	NRHP Listed
Rotan-Dossett House	NRHP Listed
St. James Methodist Episcopal Church	NRHP Listed
Texas Textile Mills-L.L. Sams Company Historic District	NRHP Listed
Veterans Administration Hospital Historic District	NRHP Listed
Waco Downtown Historic District	NRHP Listed
Waco Drug Company	NRHP Listed
Waco High School	NRHP Listed
Waco Suspension Bridge	NRHP Listed
Washington Avenue Bridge	NRHP Listed
U.S. Post Office - Waco	NRHP Eligible
Veterans Administration Medical Center	NRHP Eligible
A.J. Moore High School	State Listed
Alico Building	State Listed
Austin Avenue Methodist Church	State Listed
Austin Avenue United Methodist Church	State Listed
Bagby House	State Listed
Baylor University	State Listed
Baylor, R.E.B.	State Listed
Bell's Hill School	State Listed
Brann-Davis Shootings	State Listed
Brazos River Transmission Electric Cooperative	State Listed
Burleson Quadrangle	State Listed
Burleson, Dr. Rufus Columbs	State Listed
Butler, George Harrison, House	State Listed
Camp MacArthur, World War I Training Camp	State Listed
Canuteson, Ole	State Listed

Table D-2
Historic Resources in the APE – AUS3 PADDC

Resource Name	Significance
Carroll Library	State Listed
Castle Heights	State Listed
Central Christian Church of Waco	State Listed
Central Presbyterian Church	State Listed
Central Texas Baptist Sanitarium	State Listed
Chapel Hill Community	State Listed
Chapel Hill Memorial Park Cemetery	State Listed
Christian (Oak Grove) Cemetery	State Listed
Clifton, Albert Turner, House	State Listed
Cobbs-Walker Cemetery	State Listed
Columbus Avenue Baptist Church	State Listed
Congregation Agudath Jacob	State Listed
Congregation Rodef Sholom	State Listed
De Cordova, Jacob	State Listed
Downsville Baptist Church	State Listed
Dr. Andrew Joseph Armstrong	State Listed
Dr. David Richard Wallace	State Listed
Earle, Hallie, M.D.	State Listed
Earle-Harrison House	State Listed
Earle-Napier-Kinnard House	State Listed
East Terrance	State Listed
Edward Ferdinant Forsgard	State Listed
Elite Cafe	State Listed
Evangelia Settlement	State Listed
First Baptist Church of Waco	State Listed
First Church Building in Waco	State Listed
First Lutheran Church	State Listed
First Presbyterian Church of Waco	State Listed
First Street Cemetery	State Listed
First United Methodist Church of Hewitt	State Listed
First United Methodist Church of Waco	State Listed
Fletcher Cemetery	State Listed
Forsgard House	State Listed
Fort House	State Listed
General Richard Harrison	State Listed
George W. Carroll Science Hall	State Listed
Georgia Burleson and Early Female Education at Baylor	State Listed
Gerald-Harris Shootings	State Listed

Table D-2
Historic Resources in the APE – AUS3 PADDC

Resource Name	Significance
Grand Lodge of Texas, A.F. & A.M.	State Listed
Greenwood Cemetery	State Listed
Hebrew Rest	State Listed
Hewitt Baptist	State Listed
Hogle Cabin	State Listed
Holy Cross Cemetery	State Listed
Jacob-Sholom Cemetery	State Listed
Johnson-Taylor House	State Listed
Kellum Cemetery	State Listed
Kellum Family Cemetery	State Listed
Lusk House	State Listed
McCulloch,C.C., House, The	State Listed
McLennan Cemetery	State Listed
McLennan County Courthouse	State Listed
McLennan, Neil	State Listed
Methodist Home, The	State Listed
Miller, Dorris	State Listed
Mount Pleasant Missionary Baptist Church	State Listed
Mount Zion United Methodist Church	State Listed
Mt Olive Cemetery	State Listed
Mt Pleasant Cemetery	State Listed
Mt Zion Cemetery	State Listed
Neff, Governor Patrick Morris	State Listed
New Hope Baptist Church	State Listed
Oakwood Cemetery	State Listed
Paul Quinn College	State Listed
Proctor Springs	State Listed
Providence Sanitarium	State Listed
Restland Cemetery	State Listed
Riggs Cemetery	State Listed
Robertson	State Listed
Rosemound Cemetery	State Listed
Rosenthal Cemetery	State Listed
Ross Oak, The	State Listed
Rotan-Dosset House	State Listed
Saint John United Church of Christ	State Listed
Saint Luke African Methodist Espiscopal Church	State Listed
Saint Mary's Church of the Assumption	State Listed

Table D-2
Historic Resources in the APE – AUS3 PADDC

Resource Name	Significance
Saint Paul's Episcopal Church	State Listed
Samuel Johan Forsgard	State Listed
Sears, Dr. John Henry	State Listed
Second Baptist Church of Waco	State Listed
Seventh & James Baptist Church	State Listed
Site of Old Texas Cotton Palace	State Listed
St Paul's Memorial Cemetery	State Listed
St. James United Methodist Church	State Listed
Stanford Chapel Cemetery	State Listed
Sturgis House, The	State Listed
Texas Christian University, Old Site of	State Listed
Texas Rangers and the Fence Cutters, The	State Listed
The Armstrong Browning Library	State Listed
The Cottonland Castle	State Listed
The Courthouses of McLennan County	State Listed
The Sims Cabin	State Listed
The Texas Collection	State Listed
Thomas Hudson Barron	State Listed
Toliver Chapel Baptist Church	State Listed
Truett, George W.	State Listed
Waco	State Listed
Waco City Waterworks	State Listed
Waco Lodge No. 92, A.F.& A.M.	State Listed
Waco Memorial Park Cemetery	State Listed
Waco Springs	State Listed
Waco Springs, Site of the Waco Indian Village	State Listed
Waco State Home	State Listed
Waco Suspension Bridge, The	State Listed
Waco Theatre	State Listed
Waco Tornado, The	State Listed
Waco University	State Listed
Waco, County Seat of McLennan County	State Listed
Walker Homestead, Old	State Listed
Wesley United Methodist Church	State Listed
White Hall Cemetery	State Listed
Whitehall Cemetery	State Listed
William Cameron Park	State Listed
William McKendree Lambdin	State Listed

Table D-2
Historic Resources in the APE – AUS3 PADDC

Resource Name	Significance
Youngblood Memorial Presbyterian Church	State Listed
Zion United Church of Christ	State Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Adamson, W.H., High School	NRHP Listed
Akard Building	NRHP Listed
Ambassador Hotel	NRHP Listed
Belo, Alfred Horatio, House	NRHP Listed
Bluitt Sanitarium	NRHP Listed
Braniff International Hostess College	NRHP Listed
Bryan Tower	NRHP Listed
Building at 3525 Turtle Creek Boulevard	NRHP Listed
Busch Building	NRHP Listed
Busch-Kirby Building (Boundary Increase)	NRHP Listed
Cabana Motor Hotel	NRHP Listed
Cedar Springs Place	NRHP Listed
Dallas Coffin Company	NRHP Listed
Dallas County Courthouse	NRHP Listed
Dallas Downtown Historic District (Additional Documentation)	NRHP Listed
Dallas Downtown Historic District (Boundary Increase)	NRHP Listed
Dallas High School Historic District	NRHP Listed
Dallas National Bank	NRHP Listed
Dallas Scottish Rite Temple	NRHP Listed
Dallas Union Terminal	NRHP Listed
Dealey Plaza Historic District	NRHP Listed
Deep Ellum Historic District	NRHP Listed
Fidelity Union Life Insurance Building	NRHP Listed
First National Bank Tower	NRHP Listed
Gospel Lighthouse Church	NRHP Listed
Greenway Parks Historic District	NRHP Listed
Harlan Building	NRHP Listed
Hilton Hotel	NRHP Listed
Hotel Adolphus	NRHP Listed
Houston Street Viaduct	NRHP Listed
Hughes Brothers Manufacturing Company Building	NRHP Listed
Joffre-Gilbert House	NRHP Listed
Johnson Rooming House	NRHP Listed
Kessler Park Historic District	NRHP Listed
Kessler Park Historic District (Boundary Increase)	NRHP Listed
King's Highway Historic District	NRHP Listed
Lake Cliff Historic District	NRHP Listed
Lamar-McKinney Bridge	NRHP Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Lancaster Avenue Commercial Historic District	NRHP Listed
Longhorn Ballroom	NRHP Listed
Magnolia Building	NRHP Listed
Magnolia Petroleum Company City Sales and Warehouse	NRHP Listed
Majestic Theatre	NRHP Listed
Mayflower Building	NRHP Listed
Medical Dental Building	NRHP Listed
Miller and Stemmons Historic District	NRHP Listed
Miller, John Hickman, House	NRHP Listed
Monroe Shops	NRHP Listed
North Bishop Avenue Commercial Historic District	NRHP Listed
Number 4 Hook and Ladder Company	NRHP Listed
Oak Lawn Methodist Episcopal Church, South	NRHP Listed
One Main Place	NRHP Listed
Paine House	NRHP Listed
Parkland Hospital	NRHP Listed
Purvin-Hexter Building	NRHP Listed
Republic National Bank	NRHP Listed
Rosemont Crest Historic District	NRHP Listed
Sanger Brothers Complex	NRHP Listed
Santa Fe Terminal Building No. 4	NRHP Listed
Santa Fe Terminal Buildings No.1 and No. 2	NRHP Listed
Sharrock, Everard Jr., Farmstead	NRHP Listed
Spake, Jacob and Eliza, House	NRHP Listed
St. Paul Methodist Episcopal Church	NRHP Listed
Stanard-Tilton Flour Mill	NRHP Listed
Stoneleigh Court Hotel	NRHP Listed
Tenth Street Historic District	NRHP Listed
Texas Theatre	NRHP Listed
Titche-Goettinger Department Store	NRHP Listed
Turtle Creek Pump Station	NRHP Listed
U.S. Courthouse and Federal Office Building	NRHP Listed
Waples-Platter Buildings	NRHP Listed
Wedgwood Apartments	NRHP Listed
Westend Historic District	NRHP Listed
Wilson Block	NRHP Listed
Wilson Building	NRHP Listed
Winnetka Heights Historic District	NRHP Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Braniff Airways/Dalfort Aerospace Facility at Dallas Love Field	NRHP Eligible
Harwood Historic District	NRHP Eligible
Main Post Office	NRHP Eligible
State-Thomas Historic District	NRHP Eligible
Cooke, Colonel William G.	State Listed
Copeland, H. V.	State Listed
Crockett, John McClannahan	State Listed
Cumberland Hill School	State Listed
Dallas	State Listed
Dallas Baby Camp	State Listed
Dallas Baptist University (Decatur Baptist College)	State Listed
Dallas City Hall	State Listed
Dallas County	State Listed
Dallas County Criminal Courts Bldg.	State Listed
Dallas County Records Building	State Listed
Dallas Morning News	State Listed
Dallas Scottish Rite Temple	State Listed
Dallas Symphony	State Listed
Dallas Zoo	State Listed
Daniel Webster Gilbert, M. D.	State Listed
Darnell, Nicholas Henry	State Listed
Dr. Franklin Monroe Gilbert	State Listed
Duncanville	State Listed
Eagle Ford Community	State Listed
El Camposanto de...Trinity Portland Cemetery	State Listed
Emanuel Cemetery	State Listed
Everard Sharrock, Jr. Farmstead	State Listed
First Baptist Church	State Listed
First Baptist Church of Irving	State Listed
First Christian Church of Duncanville	State Listed
First Ferry and Bridge	State Listed
First Juries to Sit Women in Dallas County	State Listed
First United Methodist Church of Dallas	State Listed
First United Methodist Church of Duncanville	State Listed
Five Mile Cemetery	State Listed
Fowler, Juliette Abbey Peak	State Listed
Frank Reagh	State Listed
Freedman's Cemetery	State Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Freedmans Memorial Park Cemetery	State Listed
Fuget	State Listed
Fuget Cemetery	State Listed
General Richard M. Gano House	State Listed
Giving Community Thanks	State Listed
Grand Prairie Airfield	State Listed
Greenwood Cemetery	State Listed
Hensley Field	State Listed
Higginbotham - Bailey Building	State Listed
Higginbotham - Pearlstone Building	State Listed
Hilton Hotel	State Listed
Hoblitzelle, Karl St. John	State Listed
Horton Cemetery	State Listed
Joffre-Gilbert House	State Listed
John C. Pelt	State Listed
John Shelby Wisdom	State Listed
John W. Lane	State Listed
Jordan - Bowles House	State Listed
Jordan - Hight Family Cemetery	State Listed
Jordan-Hight	State Listed
Junction of the Texas & Pacific and Houston & Texas Central Railroads	State Listed
Kennedy Memorial Area	State Listed
Kit Community	State Listed
La Reunion	State Listed
La Reunion Cemetery	State Listed
Latimer, James W.	State Listed
Laurel Land Memorial Park Cemetery	State Listed
Ledbetter Family Cemetery	State Listed
Livestone Lodge No. 152, F. & A. M.	State Listed
Log Cabin Pioneers	State Listed
Love Field	State Listed
Macedonia Missionary Baptist Church	State Listed
Magnolia (Mobil) Building	State Listed
Majestic Theatre	State Listed
Maple Avenue	State Listed
McAdams Cemetery	State Listed
McNab Grocery	State Listed
Merrifield	State Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Merrifield Cemetery	State Listed
Miller Log Cabin	State Listed
Miller, John Hickman	State Listed
Millermore	State Listed
Moorland YMCA Building	State Listed
Music Room	State Listed
Near Homesite of Belle Boyd	State Listed
Neiman - Marcus	State Listed
Neiman-Marcus	State Listed
North Dallas High School	State Listed
Oak Cliff Cemetery	State Listed
Oak Cliff Masonic Lodge	State Listed
Oak Cliff Presbyterian Church	State Listed
Oak Cliff United Methodist Church	State Listed
Oak Grove Memorial Park	State Listed
Oaklawn United Methodist Church	State Listed
Oath of Office of President Johnson	State Listed
Officer J.D. Tippit	State Listed
Old City Park	State Listed
Old Kit Cemetery	State Listed
Old Red Courthouse	State Listed
Old Southland Cemetery	State Listed
Original Site of the Coca-Cola Bottling Company of Dallas	State Listed
Parkland Hospital	State Listed
Pediatric Orthopedic Care in Texas	State Listed
Pierre Dusseau	State Listed
Pike Park	State Listed
Pioneer Cemetery	State Listed
Record, James K. Polk	State Listed
Reichenstein Home	State Listed
Robert E. Lee Park	State Listed
Robinson Family	State Listed
Samuel David Dealey, Jr.	State Listed
Sanger Brothers Department Store	State Listed
Schulze House	State Listed
Scott	State Listed
Shady Grove	State Listed
Shady Grove Road Bridge	State Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Shady Oak	State Listed
Site of the Dr. D. W. Gilbert Homestead	State Listed
Slaughter, Colonel C. C.	State Listed
Small Family	State Listed
Smith Cemetery	State Listed
South MacArthur Church of Christ	State Listed
Southland Cemetery, Old	State Listed
Southland Memorial Park	State Listed
Sowers	State Listed
Sowers Cemetery	State Listed
Sowers Community	State Listed
St. Luke Catholic Church	State Listed
St. Paul United Methodist Church	State Listed
Stephen J. Hay School	State Listed
Stone, Barton Warren	State Listed
Struck Cemetery	State Listed
Sunset High School	State Listed
Temple Emanuel Cemetery	State Listed
Tenth Street Historic District Freedmans Town	State Listed
Texas' First Airmail and Passenger Service	State Listed
Texas School Book Depository Building	State Listed
Texas Theatre	State Listed
The Crossroads	State Listed
The Hord Log Cabin	State Listed
Thomas L. Bradford	State Listed
Trinity Farms Cemetery	State Listed
Trinity Farms/Rancho Grande Cemetery	State Listed
Trinity Portland Cement Company Cemetery	State Listed
Trinity Presbyterian Church, USA	State Listed
Turtle Creek Pump Station	State Listed
Tyler Street United Methodist Church	State Listed
Union Bower Community	State Listed
Union Station	State Listed
Vernoy	State Listed
W. H. Adamson High School	State Listed
Wesley Cockrell Cemetery	State Listed
Western Heights	State Listed
Western Heights Cemetery	State Listed

Table D-3
Historic Resources in the APE – DAL3 PADDC

Resource Name	Significance
Western Heights Church of Christ	State Listed
William Sidney Pittman	State Listed
Wilson Block	State Listed
Winnetka Heights	State Listed
Women's Suffrage in Dallas County	State Listed

Table D-4
Historic Resources in the APE – DFW7 PADDC

Resource Name	Significance
Central Roanoke Historic District	NRHP Listed
Cranston Site	NRHP Listed
Lambert, J. C., Site	NRHP Listed
Old Continental State Bank	NRHP Listed
Roark-Griffith Site	NRHP Listed
Serren, A. H., Site	NRHP Listed
Wilson-Donaldson Site	NRHP Listed
Bourland Cemetery	State Listed
Chapel Cemetery	State Listed
Elizabeth Cemetery	State Listed
Elizabethtown Cemetery	State Listed
First Baptist Church of Keller	State Listed
Indian Creek	State Listed
Keller Methodist Church	State Listed
Kelsay Cemetery	State Listed
Mount Gilead Baptist Church	State Listed
Mount Gilead Cemetery	State Listed
Mt. Gilead Cemetery	State Listed
Peterson Cemetery	State Listed
Peterson Family Cemetery	State Listed
Pioneer Stone Burial Cairns	State Listed
Roanoke IOOF Cemetery	State Listed
Roanoke Lodge No. 668 A.F. & A.M.	State Listed
Roanoke Water Tower	State Listed
Silver Spur Saloon	State Listed

Table D-5

Historic Resources in the APE – FTW4 PADDC

Resource Name	Significance
Central Roanoke Historic District	NRHP Listed
Old Continental State Bank	NRHP Listed
Allen Cemetery	State Listed
Bourland Cemetery	State Listed
Bourland Cemetery	State Listed
Chapel Cemetery	State Listed
Chapel Cemetery	State Listed
Dunham Cemetery	State Listed
Elizabeth Cemetery	State Listed
Elizabethtown Cemetery	State Listed
First Baptist Church of Keller	State Listed
Justin	State Listed
Justin Cemetery	State Listed
Keller	State Listed
Keller Methodist Church	State Listed
Kelsay Cemetery	State Listed
Medlin Cemetery	State Listed
Medlin Cemetery	State Listed
Mount Gilead Baptist Church	State Listed
Mount Gilead Cemetery	State Listed
Mt. Gilead Cemetery	State Listed
Pioneer Stone Burial Cairns	State Listed
Roanoke	State Listed
Roanoke I.O.O.F. Cemetery	State Listed
Roanoke IOOF Cemetery	State Listed
Roanoke Lodge No. 668 A.F. & A.M.	State Listed
Roanoke Water Tower	State Listed
Silver Spur Saloon	State Listed
Wolfe Cemetery	State Listed

Table D-6

Historic Resources in the APE – HOU2 PADDC

Resource Name	Significance
Barker-Cypress Archeological Site (41HR436)	NRHP Listed
Harris County Boy's School Site	NRHP Listed
Houston National Cemetery	NRHP Listed
Mansfield Street Archeological Site	NRHP Listed
Acres Homes Community	State Listed
Unknown (Greenwood Forest) Cemetery	State Listed
Aldine	State Listed
Adath Israel Cemetery	State Listed
Aldine	State Listed
Gears	State Listed
Red Oak Cemetery	State Listed
Schlobohm Cemetery	State Listed
Strack Cemetery	State Listed
Fuchs Cemetery	State Listed
Clow Cemetery	State Listed
Galilee Missionary Baptist Church	State Listed
Clow Ii Cemetery	State Listed
George Washington Carver High School	State Listed
Glameyer Cemetery	State Listed
Greater Ward A.M.E. Church	State Listed
Kuehnle	State Listed
Calvary Hill Cemetery	State Listed
St. Matthew	State Listed
St. John Evangelical Lutheran	State Listed
Janisch Cemetery	State Listed
Cemetery Beautiful	State Listed
St. Joseph	State Listed
Houston National Cem.	State Listed
Rest Lawn Cemetery	State Listed
Morales	State Listed
Saint John United Church	State Listed
Saint Paul A. M. E. Church	State Listed
Sam Houston High School	State Listed

Table D-7
Historic Resources in the APE – HOU6 PADDC

Resource Name	Significance
Fort Bend County Courthouse	NRHP Listed
Imperial Sugar Company Refinery Historic District	NRHP Listed
Lamar-Calder House	NRHP Listed
Methodist Church of Richmond	NRHP Listed
Moore, John M. and Lottie D., House	NRHP Listed
Archeological Site 41FB70	NRHP Eligible
Archeological Site 41FB71	NRHP Eligible
Archeological Site 41FB72	NRHP Eligible
Alief Cemetery	State Listed
Baker Cemetery	State Listed
Briscoe Family	State Listed
Buckley, Constantine W.	State Listed
Bullhead Convict Labor Camp Cemetery	State Listed
Burton, Walter Moses	State Listed
Calvary Episcopal Church	State Listed
Cartwright-McCrary	State Listed
Church Of The Living God, Pillar And Ground Of Truth	State Listed
Coffman Family	State Listed
Courthouse Square, Early	State Listed
Darst-Yoder House, The	State Listed
Dismounted Texas Cavalry	State Listed
Dr. Johnson C. Hunter Family Cemetery	State Listed
Dyer-Myer	State Listed
Faithe Thomas	State Listed
Feris	State Listed
Fort Bend	State Listed
Fort Bend County Courthouse	State Listed
Fort Bend County Jail	State Listed
Foster Community	State Listed
Gaston	State Listed
Gray Lodge No. 329, A. F. & A. M.	State Listed
Hardwell	State Listed
Hillsman Family	State Listed
Hodges Bend	State Listed
Hodge's Bend Cemetery	State Listed
Imperial Prison Farm Cemetery	State Listed
Jane Long Boarding House	State Listed
John Foster	State Listed

Table D-7

Historic Resources in the APE – HOU6 PADDC

Resource Name	Significance
Jones, Randal, Site of the Home of	State Listed
King	State Listed
Lamar, Mirabeau B., Site of the Home of	State Listed
McFarlane House, The	State Listed
McGee CHAPEL	State Listed
McNabb House	State Listed
McNabb, John	State Listed
Moore Home	State Listed
Morton Cemetery	State Listed
Morton Lodge No. 72, A. F. & A. M.	State Listed
Morton-McCloy House	State Listed
Mrs. Jane Herbert Wilkinson Long	State Listed
Mt. Carmel Baptist Church	State Listed
New Home Missionary Baptist	State Listed
Nix Family	State Listed
Oak Hill Baptist Church	State Listed
Oak Hill Cemetery	State Listed
Old Spring Green Baptist Church	State Listed
Page's Chapel	State Listed
Peareson-Winston House, The	State Listed
Pet Cemetery	State Listed
Pleasant Green Baptist Church	State Listed
Prairie Grove Cemetery	State Listed
Randolph Foster	State Listed
Richmond, City of	State Listed
Roberson	State Listed
San Gabriel	State Listed
Site of Thompson's Ferry	State Listed
Smith, Erastus ("Deaf")	State Listed
Smith, Thomas Jefferson	State Listed
Spring Green Baptist	State Listed
St. John's United Methodist Church	State Listed
Sugar Land	State Listed
Sugar Land Auditorium	State Listed
Sugar Land Independent School District No. 17	State Listed
Texas Prison System Central State Farm Main Building	State Listed
The Sugar Land Refinery	State Listed
Thompson's Chapel	State Listed

Table D-7

Historic Resources in the APE – HOU6 PADDC

Resource Name	Significance
Washington	State Listed
Watkins Cemetery	State Listed
White Cemetery	State Listed
Wilderness Branch	State Listed
William M. Jenkins	State Listed
Willie Jones	State Listed
Wyly Martin	State Listed

Table D-8
Historic Resources in the APE – IAH1 PADDC

Resource Name	Significance
Gospel Lighthouse Church	NHRP Listed
Monroe Shops	NHRP Listed
Randlett House	NHRP Listed
Rawlins, Capt. R. A., House	NHRP Listed
Strain Farm-Strain, W.A., House (Boundary Increase)	NHRP Listed
Strain, W. A., House	NHRP Listed
Carver Memorial Park	State Listed
Coming Home Cemetery	State Listed
Confederate Arms Factory	State Listed
Dawdy's Ferry	State Listed
Edgewood	State Listed
Edgewood Cemetery	State Listed
First Baptist Church of Hutchins	State Listed
First Baptist Church of Lancaster	State Listed
First Christian Church of Lancaster	State Listed
First Methodist Church of Hutchins	State Listed
First Presbyterian Church of Lancaster	State Listed
First United Methodist Church of Lancaster	State Listed
Floyd-Taylor Family Cemetery	State Listed
Head House	State Listed
Honey Springs Cemetery	State Listed
Hutchins	State Listed
Hutchins Memorial cemetery	State Listed
Joppee Community	State Listed
Lancaster	State Listed
Lancaster Education	State Listed
Laurel Land Memorial Park Cemetery	State Listed
Lincoln Memorial Park	State Listed
Lisbon Cemetery	State Listed
Lowrey - Hurst Homestead	State Listed
Mckinney Family	State Listed
Miller Family Cemetery	State Listed
Nance Farm	State Listed
Oak Cliff Presbyterian Church	State Listed
Overton Cemetery	State Listed
Pleasant Run	State Listed
Rawlins	State Listed
Rawlins Homestead	State Listed

Table D-8
Historic Resources in the APE – IAH1 PADDC

Resource Name	Significance
Rocky Crest School	State Listed
Rylie	State Listed
Rylie Cemetery	State Listed
Rylie Prairie	State Listed
Simpson Cemetery	State Listed
Slone (included within Edgewood Cemetery) Cemetery	State Listed
Smith Family Cemetery	State Listed
St. Paul Freewill Baptist Church	State Listed
Stadden	State Listed
Strain, W. A., Home	State Listed
Trinity Cemetery	State Listed
Unknown (Heath Creek) Cemetery	State Listed
Unnamed African American	State Listed
Wheatland Cemetery	State Listed
Wheatland Methodist Church	State Listed
Winniford House	State Listed
Wood Creek Cemetery	State Listed

Table D-9

Historic Resources in the APE – SAHx PADDC

Resource Name	Significance
Alief Cemetery	State Listed
Allen Family Cemetery	State Listed
Almeda	State Listed
Bellaire	State Listed
Bellaire Presbyterian Church	State Listed
Bellaire Streetcar Line	State Listed
Branch Cemetery	State Listed
Buffalo Bayou, Brazos & Colorado, First Railroad in Texas	State Listed
Chen, Edward K. T.	State Listed
Chinese Texans and Civil Rights	State Listed
Craven-Ellis Cemetery	State Listed
Dairy (Alief)	State Listed
DeWalt Cemetery	State Listed
Dyer House, Old, 1890	State Listed
Emanu El Memorial Park Cemetery	State Listed
Farmers Improvement Society Cemetery	State Listed
Grand Central Cemetery	State Listed
Morse Cemetery	State Listed
Mt. Olive Baptist Church Cemetery	State Listed
Mulberry Cemetery	State Listed
Packer Family Cemetery	State Listed
Paschal Paolo Borden	State Listed
Pet Cemetery	State Listed
Plantation Road Cemetery	State Listed
Prairie Grove Cemetery	State Listed
Riceville Cemetery	State Listed
Riceville School Road Cemetery	State Listed
San Isidro Cemetery	State Listed
St. John Missionary Baptist Church	State Listed
Stafford Municipal School District	State Listed
Stafford Plantation	State Listed
Stafford's Point	State Listed
Sugar Land	State Listed
Sugar Land Auditorium	State Listed
Sugar Land Independent School District No. 17	State Listed

Table D-9

Historic Resources in the APE – SAHx PADDC

Teas Nursery Company	State Listed
Temple Lodge No. 4 A.F. & A.M.	State Listed
Texan Capture of Mexican Dispatchers	State Listed
The Sugar Land Refinery	State Listed
Watts Cemetery	State Listed
William J. Stafford Cemetery	State Listed

Table D-10
Historic Resources in the APE – SAH1 PADDC

Resource Name	Significance
Houston National Cemetery	NRHP Listed
Wunsche Bros. Saloon and Hotel	NRHP Listed
Aldine	State Listed
Budde	State Listed
Calvary Hill Cemetery	State Listed
Clow Cemetery	State Listed
Clow Ii Cemetery	State Listed
Ehrhardt	State Listed
Gears	State Listed
Glameyer Cemetery	State Listed
Houston National Cem.	NRHP Listed
Klein Community	State Listed
Kuehnle	State Listed
Mcdougle Cemetery	State Listed
Morales	State Listed
Mueschke	State Listed
Rayford Rest Cemetery	State Listed
Red Oak Cemetery	State Listed
Resthaven	State Listed
Saint Paul A. M. E. Church	State Listed
Seal Mcdougle Cemetery	State Listed
Somervill Cemetery	State Listed
Spring Cemetery	State Listed
St. Matthew	State Listed
Strack Cemetery	State Listed
Tetter Cemetery	State Listed
Tetter Negro Cemetery	State Listed
Trinity Lutheran Church Cemetery	State Listed
Wunsche Brothers Saloon And Hotel	State Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

Resource Name	Significance
Alamo National Bank Building	NRHP Listed
Alamo Plaza Historic District	NRHP Listed
Alamo Portland and Roman Cement Works	NRHP Listed
Alamo Stadium and Gymnasium	NRHP Listed
Alamo, The	NRHP Listed
Aztec Theater	NRHP Listed
Barr Building	NRHP Listed
Bonham, James Butler, Elementary School	NRHP Listed
Brackenridge Park	NRHP Listed
Brady Building--Empire Theater	NRHP Listed
Brooke Army Medical Center	NRHP Listed
Builders Exchange Building	NRHP Listed
Burns Building	NRHP Listed
Bushnell	NRHP Listed
Calcasieu Building	NRHP Listed
Carver, George Washington, Library and Auditorium	NRHP Listed
Central Trust Company Building	NRHP Listed
Chinese Sunken Garden Gate	NRHP Listed
City of San Antonio Municipal Auditorium	NRHP Listed
Dionicio Rodriguez Bridge in Brackenridge Park	NRHP Listed
Elmendorf, Emil, House	NRHP Listed
Fairmount Hotel, The	NRHP Listed
First National Bank of San Antonio	NRHP Listed
Fort Sam Houston	NRHP Listed
Fourth Ward School	NRHP Listed
Friedrich Complex	NRHP Listed
Goad Motor Company Building	NRHP Listed
Gunter Hotel	NRHP Listed
Havana, The	NRHP Listed
Hays Street Bridge	NRHP Listed
Heidgen, Johann and Anna, House	NRHP Listed
Jacala Restaurant	NRHP Listed
King William Historic District	NRHP Listed
La Villita Historic District	NRHP Listed
Lavaca Historic District	NRHP Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

Light House	NRHP Listed
Main and Military Plazas Historic District	NRHP Listed
Majestic Theatre	NRHP Listed
Maverick--Carter House	NRHP Listed
Merchants Ice and Cold Storage Company	NRHP Listed
Miraflores Park	NRHP Listed
Mission Parkway	NRHP Listed
Monastery of Our Lady of Charity	NRHP Listed
Monte Vista Residential Historic District	NRHP Listed
Morrison, William J., Jr., House	NRHP Listed
Old Lone Star Brewery	NRHP Listed
Old Lone Star Brewery (Boundary Increase)	NRHP Listed
Pershing House	NRHP Listed
Post Chapel, Fort Sam Houston	NRHP Listed
Quadrangle, The	NRHP Listed
Saint Anthony Hotel	NRHP Listed
San Antonio Casino Club Building	NRHP Listed
San Antonio City Cemeteries Historic District, Old	NRHP Listed
San Antonio Drug Company	NRHP Listed
San Antonio Loan and Trust Building	NRHP Listed
San Antonio National Cemetery	NRHP Listed
San Antonio Water Works Pump Station No. 2	NRHP Listed
Schroeder-Yturri House	NRHP Listed
Scottish Rite Cathedral	NRHP Listed
Smith--Young Tower	NRHP Listed
South Alamo Street-South Mary's Street Historic District	NRHP Listed
Southern Pacific Depot Historic District	NRHP Listed
Southern Pacific Railroad Passenger Station	NRHP Listed
St. Mark's Episcopal Church	NRHP Listed
Staacke Brothers Building	NRHP Listed
Stevens Building	NRHP Listed
Thiele House and Thiele Cottage	NRHP Listed
Toltec, The	NRHP Listed
Trolley Stop in Alamo Heights	NRHP Listed
Uhl, Gustav, House and Store	NRHP Listed
University of the Incarnate Word Administration Building	NRHP Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

Ursuline Academy	NRHP Listed
Alamo Plaza Hisitoric District	NRHP Eligible
Aztec Theatre	NRHP Eligible
Brackenridge Park	NRHP Eligible
Brackenridge Park Multiple Resource District	NRHP Eligible
Fairmont Hotel	NRHP Eligible
Fort Sam Houston National Cemetery	NRHP Eligible
San Antonio National Cemetery	NRHP Eligible
Texas Theatre	NRHP Eligible
250th Anniversary of the Founding of San Antonio	State Listed
Acequia Madre de Valero	State Listed
Adina Emilia de Zavala	State Listed
Agudas Achim	State Listed
Alamo	State Listed
Alamo Cenotaph	State Listed
Alamo Low Barracks and Main Gateway	State Listed
Alamo Masonic Cemetery	State Listed
Alamo Masonic Lodge	State Listed
Alamo Portland and Roman Cement Company	State Listed
Anchor Masonic	State Listed
Anna Barbara and Johann Engelbert Heidgen House	State Listed
Argyle	State Listed
Barbed Wire Demonstration	State Listed
Battle of Rosalis	State Listed
Beacon Light Masonic Lodge #50	State Listed
Bee, Hamilton P.	State Listed
Belgian Transit of Venus Observation Site	State Listed
Boldtville Schoolhouse	State Listed
Bowen's Island	State Listed
Bueche Cemetery	State Listed
Bullis House	State Listed
Caile House	State Listed
Calvary	State Listed
Casino Club	State Listed
Casino Club Building, San Antonio	State Listed
Central Catholic High School	State Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

City Cemetery #3	State Listed
City Cemetery No. 2	State Listed
City Cemetery No. 4	State Listed
City Cemetery No. 5	State Listed
City Cemetery No. 6	State Listed
City Cemetery No.1	State Listed
Colonel George Wythe Baylor C.S.A.	State Listed
Colonial Chapel Hill	State Listed
Confederate Cemetery	State Listed
Confederate Cemetery Cemetery	State Listed
Confederate Tannery	State Listed
Cos House	State Listed
Cover Cemetery	State Listed
Dawson Massacre	State Listed
De Zavala, Adina	State Listed
Dignowity	State Listed
Dodd Field (Fort Sam Houston) Enemy Alien Detention Station, World War II	State Listed
Don Jose Miguel de Arciniega	State Listed
Driscoll, Clara	State Listed
Dullning Family	State Listed
Eagar House	State Listed
East Mt. Calm	State Listed
Eastview Cemetery	State Listed
Eisenhauer Cemetery	State Listed
El Quartel (El Cuartel)	State Listed
Elmendorf, Emil	State Listed
Engleman-Muench House	State Listed
Ernst Homestead	State Listed
First Presbyterian Church of San Antonio	State Listed
Fisk, James Nathaniel	State Listed
Fisk, Simona Smith	State Listed
Ford, John Salmon "Rip"	State Listed
Fort Sam Houston, 4th U.S. Army Headquarters Quadraline	State Listed
Ft. Sam Houston Natl. Cem.	State Listed
Gates of Heaven	State Listed
German Lutheran	State Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

German-English School	State Listed
Goliad Road	State Listed
Grand United Order of Odd Fellows	State Listed
Groos National Bank	State Listed
Halff House	State Listed
Hall, Lee, Captain	State Listed
Harmonia Lodge No. 1	State Listed
Hermann Son's	State Listed
Hermann Sons Converse	State Listed
Holy Spirit & Mary Immaculate	State Listed
Houston Road	State Listed
In Re Ricardo Rodriguez	State Listed
Incarnate Word	State Listed
Incarnate Word College	State Listed
Jack Hays House	State Listed
John Lang Sinclair	State Listed
Keilmann Cemetery	State Listed
King, Charles Frederick	State Listed
King, Dr. Claudius E.R.	State Listed
Knights of Pythias	State Listed
La Villita	State Listed
Leick Cemetery	State Listed
Little Church of La Villita	State Listed
Lorant-Lorenz	State Listed
Ludwig Mahncke	State Listed
Madison Square Presbyterian Church	State Listed
Majestic Theatre	State Listed
Maverick, Samuel Augustos	State Listed
Maverick-Carter House	State Listed
Meadowlawn	State Listed
Menger Hotel	State Listed
Miles, Col. Edward	State Listed
Missionary Servants St. Anthony	State Listed
Myra Lillian Davis Hemmings	State Listed
Nat Lewis Plot and Mausoleum	State Listed
Odd Fellows	State Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

Old Military Headquarters	State Listed
Old Powder Mill	State Listed
Old San Antonio National Bank Building	State Listed
Pajalache Acequia	State Listed
Pan American Round Table	State Listed
Panteon de Guadalupe Cemetery	State Listed
Pereida House	State Listed
Perrin	State Listed
Perrin Home	State Listed
Petty House	State Listed
Portland Cement Plants	State Listed
Ruiz House	State Listed
Saint Philip's College	State Listed
Saint Philip's Episcopal Church	State Listed
Salado	State Listed
Salado Valley	State Listed
Salem Cemetery	State Listed
San Antonio Lodge #1	State Listed
San Antonio National	State Listed
San Antonio Section, National Council of Jewish Women	State Listed
San Pedro	State Listed
Scottish Rite Cathedral	State Listed
Second Baptist Church of San Antonio	State Listed
Site of the Camp of Stephen F. Austin	State Listed
Smith, John W.	State Listed
Smith, Samuel S.	State Listed
St. Elmo Lodge No. 25 Cemetery	State Listed
St. Jerome	State Listed
St. John Lutheran	State Listed
St. John's Lutheran Church	State Listed
St. Joseph's Catholic	State Listed
St. Joseph's Church	State Listed
St. Joseph's Society	State Listed
St. Mark's Episcopal Church	State Listed
St. Marys	State Listed
St. Mary's College	State Listed

Table D-11

Historic Resources in the APE – SAT1x PADDC

St. Michael's Catholic	State Listed
St. Paul United Methodist Church	State Listed
St. Paul's Epsicopal Church	State Listed
St. Peter Claver Catholic	State Listed
St. Philip's College	State Listed
Staacke Brothers Building	State Listed
Stevens Building	State Listed
Sunset Memorial	State Listed
Temple Beth-El	State Listed
The Battle of the Salado	State Listed
The Mexican Village	State Listed
The Southwell Company	State Listed
Thiele Cottage	State Listed
Toltec Apartments	State Listed
Travis Park United Methodist Church	State Listed
Twohig House	State Listed
United Brothers of Friendship	State Listed
unknown (E of Sunset Memorial Park Cem)	State Listed
Unknown (S. of Boltville) Cemetery	State Listed
Unknown Name	State Listed
Ursuline Convent and Academy	State Listed
William and Mary Ann Richter House	State Listed
Wolfson House	State Listed
Zambrano House	State Listed

Table D-12
Historic Resources in the APE – SAT2 PADDC

Resource Name	Significance
Barber House	NRHP Listed
Belger-Cahill Lime Kiln	NRHP Listed
Belvin Street Historic District	NRHP Listed
Burleson-Knispel House	NRHP Listed
Caldwell House	NRHP Listed
Cape House	NRHP Listed
Cemetery Chapel, San Marcos Cemetery	NRHP Listed
Cen-Tex Wool Mill Historic District	NRHP Listed
Cock House	NRHP Listed
Dripping Springs Downtown Historic District	NRHP Listed
Episcopalian Rectory	NRHP Listed
Farmers Union Gin Company	NRHP Listed
Fire Station and City Hall	NRHP Listed
First United Methodist Church	NRHP Listed
Fisher Hall	NRHP Listed
Fort Street Presbyterian Church	NRHP Listed
Goforth-Harris House	NRHP Listed
Green and Faris Buildings	NRHP Listed
Hardy-Williams Building	NRHP Listed
Hays County Courthouse	NRHP Listed
Hays County Courthouse Historic District	NRHP Listed
Hays County Jail	NRHP Listed
Heard House	NRHP Listed
Hofheinz, Augusta, House	NRHP Listed
Hofheinz, Walter, House	NRHP Listed
Hutchison House	NRHP Listed
Johnson House	NRHP Listed
Kone-Cliett House	NRHP Listed
Main Building, Southwest Texas Normal School	NRHP Listed
Martindale Central Historic District	NRHP Listed
McKie-Bass Building	NRHP Listed
Moore Grocery Company	NRHP Listed
Pettey House	NRHP Listed
Ragsdale-Jackman-Yarbough House	NRHP Listed
Rylander-Kyle House	NRHP Listed
San Marcos Milling Company	NRHP Listed
San Marcos Telephone Company	NRHP Listed
Simon Building	NRHP Listed

Table D-12
Historic Resources in the APE – SAT2 PADDC

Resource Name	Significance
Smith House	NRHP Listed
Williams-Tarbutton House	NRHP Listed
Archeological Site 41HY75	NRHP Eligible
Archeological Site 41HY86	NRHP Eligible
Archeological Site 41HY92	NRHP Eligible
Georgetown Market, Chisholm Trail	NRHP Eligible
Gruene Road Bridge over Guadalupe River	NRHP Eligible
West Fork of Plum Creek Bridge	NRHP Eligible
Abel Ranch Cemetery	State Listed
Alexander Gates & Lillian Johnson Thomas House	State Listed
Augusta Hofheinz House	State Listed
Bading 1 Cemetery	State Listed
Bading Cemetery	State Listed
Basil Dailey House	State Listed
Belvin Street Historic District	State Listed
Belvin, Robert Hixon	State Listed
Braune Cemetery	State Listed
Braune, Urban, Randow Cemetery	State Listed
Brown, O. T.	State Listed
Burleson Home	State Listed
Byrd Owen-Payne Cemetery	State Listed
Calaboose	State Listed
Caldwell-Kone-Hyatt House	State Listed
Cementerio del Rio	State Listed
Cementerio del Rio Cemetery	State Listed
Cephas, Ulysses	State Listed
Charles Lewis McGehee Cabin	State Listed
Cheatham-Hohenberg Cemetery	State Listed
Cock, Charles S.	State Listed
Coronal Institute	State Listed
Crayton Cemetery	State Listed
Crayton-Spruill Cemetery	State Listed
Cumberland Presbyterian Church (Fort Street Presbyterian Church)	State Listed
Dietert Family Cemetery	State Listed
Don Felipe Roque de la Portilla	State Listed
Dunbar School	State Listed
Earnest, Joseph W.	State Listed
Eddie Durham	State Listed

Table D-12
Historic Resources in the APE – SAT2 PADDC

Resource Name	Significance
Edward Burleson, Jr. Home	State Listed
Farmers Union Gin Company	State Listed
First Baptist Church NBC of San Marcos	State Listed
First Baptist Church of San Marcos	State Listed
First National Bank of San Marcos	State Listed
First Presbyterian Church	State Listed
First United Methodist Church	State Listed
Fish Hatchery Office Building	State Listed
Flagge Cemetery	State Listed
Galle Grave Cemetery	State Listed
Garden of the Cross Cemetery	State Listed
Gesche Cemetery	State Listed
Goforth-Harris House	State Listed
Guadalupe Cemetery	State Listed
Haner-Flagge Cemetery	State Listed
Harper's Hall, Site of	State Listed
Hays County	State Listed
Hays County Courthouses	State Listed
Heard-Baker House	State Listed
Hector Family Cemetery	State Listed
Hernandez Cemetery	State Listed
Hutchison, Beverly	State Listed
J. H. Barbee House	State Listed
John Dietert Cemetery	State Listed
John Matthew Cape House	State Listed
Johnson, Lloyd Gideon	State Listed
King's Highway - Camino Real - Old San Antonio Road	State Listed
Kone-Cliett House	State Listed
Kone-Yarbrough House	State Listed
Lime Kiln	State Listed
Long Branch Cemetery	State Listed
Malone, Eliza Pitts	State Listed
Malone, James Lafayetteand Eliza Pitts	State Listed
Martindale Cemetery	State Listed
Martindale City Cemetery	State Listed
McGehee Cemetery	State Listed
McGehee Crossing	State Listed
McGehee, George Thomas	State Listed

Table D-12
Historic Resources in the APE – SAT2 PADDC

Resource Name	Significance
McGehee, John F.	State Listed
McKie, Robert Early	State Listed
Mehlitz Cemetery	State Listed
Memory Lawn Memorial Park Cemetery	State Listed
Merriman, Eli T.	State Listed
Mexican War Camp	State Listed
Mission San Francisco Xavier de los Delores	State Listed
Moon, William W.	State Listed
Nichols Cemetery	State Listed
Nolte Cemetery	State Listed
Old Main	State Listed
Peter Cavanaugh Woods	State Listed
Pitts Cemetery	State Listed
Posey Cemetery	State Listed
Post San Marcos	State Listed
Ragsdale-Jackman-Yarbrough House	State Listed
Redwood Cemetery	State Listed
Riley's Tavern	State Listed
Rosenthal Cemetery	State Listed
Rylander-Kyle House	State Listed
San Marcos Cemetery	State Listed
San Marcos Cemetery Chapel	State Listed
San Marcos Mill Tract	State Listed
San Marcos National Fish Hatchery	State Listed
San Marcos Springs	State Listed
San Marcos-Blanco Cemetery	State Listed
San Pedro Cemetery	State Listed
Sanders-Grosgebauer Huse	State Listed
Sink Springs	State Listed
Site of Hays County's First Public Building	State Listed
Site of the First Town of San Marcos	State Listed
Southside School	State Listed
Staples Mexican Cemetery	State Listed
Storey, James Gray	State Listed
Stringtown	State Listed
Talmadge, George Henry	State Listed
Thompson's Islands	State Listed
Tuttle Cemetery	State Listed

Table D-12
Historic Resources in the APE – SAT2 PADDC

Resource Name	Significance
Wesley Chapel A. M. E. Church	State Listed
Wilhelm Dietert Cemetery	State Listed
Wonder Cave	State Listed
Wood, Ike	State Listed
York Creek Cemetery	State Listed
Zorn Cemetery	State Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Alamo Methodist Church	NRHP Listed
Alamo National Bank Building	NRHP Listed
Alamo Plaza Historic District	NRHP Listed
Alamo Portland and Roman Cement Works	NRHP Listed
Alamo Stadium and Gymnasium	NRHP Listed
Alamo, The	NRHP Listed
Aue Stagecoach Inn	NRHP Listed
Aurora Apartment Hotel	NRHP Listed
Aztec Theater	NRHP Listed
Ball, Joseph, Jr. and Salome, Homestead	NRHP Listed
Barnes-Laird House	NRHP Listed
Barr Building	NRHP Listed
Base Administration Building	NRHP Listed
Bexar County Courthouse	NRHP Listed
Billy Mitchell Village	NRHP Listed
Blue Star Street Industrial Historic District	NRHP Listed
Bonham, James Butler, Elementary School	NRHP Listed
Borden's Creamery	NRHP Listed
Brackenridge Park	NRHP Listed
Brady Building-Empire Theater	NRHP Listed
Brooke Army Medical Center	NRHP Listed
Buckeye Park Gate	NRHP Listed
Builders Exchange Building	NRHP Listed
Bungalow Colony Historic District	NRHP Listed
Burns Building	NRHP Listed
Bushnell	NRHP Listed
Calcasieu Building	NRHP Listed
Carver, George Washington, Library and Auditorium	NRHP Listed
Central Trust Company Building	NRHP Listed
Chinese Sunken Garden Gate	NRHP Listed
Church of Nuestra Senora de la Candelaria y Guadalupe	NRHP Listed
City of San Antonio Municipal Auditorium	NRHP Listed
City Public Service Company Building	NRHP Listed
Clegg, L. B., House	NRHP Listed
Dionicio Rodriguez Bridge in Brackenridge Park	NRHP Listed
Dubuis Hall	NRHP Listed
Elmendorf, Emil, House	NRHP Listed
Espada Aqueduct	NRHP Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Fairmount Hotel, The	NRHP Listed
Fence at Alamo Cement Company	NRHP Listed
First National Bank of San Antonio	NRHP Listed
Floore Country Store	NRHP Listed
Fort Sam Houston	NRHP Listed
Fort Sam Houston National Cemetery	NRHP Listed
Fountain at Alamo Cement Company	NRHP Listed
Fourth Ward School	NRHP Listed
Franklin, Thomas H., House	NRHP Listed
Friedrich Complex	NRHP Listed
Garcia-Garza House	NRHP Listed
Goad Motor Company Building	NRHP Listed
Green, Robert B., Memorial Hospital	NRHP Listed
Guenther, Carl Hilmar, House	NRHP Listed
Gunter Hotel	NRHP Listed
Halff, A. H., House	NRHP Listed
Hangar 9	NRHP Listed
Harris, Ethel Wilson, House	NRHP Listed
Harrison, John S., House	NRHP Listed
Havana, The	NRHP Listed
Hays Street Bridge	NRHP Listed
Heermann Store	NRHP Listed
Heidemann Ranch	NRHP Listed
Heidgen, Johann and Anna, House	NRHP Listed
Heimann Building	NRHP Listed
Herrera Ranch	NRHP Listed
Huebner-Onion Homestead and Stagecoach Stop	NRHP Listed
Hugo & Schmeltzer Company Warehouse	NRHP Listed
Institute of Texan Cultures	NRHP Listed
International & Great Northern Railroad Passenger Station	NRHP Listed
Jacala Restaurant	NRHP Listed
Kelly Field Historic District	NRHP Listed
King William Historic District	NRHP Listed
Krause House	NRHP Listed
La Villita Historic District	NRHP Listed
Lavaca Historic District	NRHP Listed
Lee, Robert E., Hotel	NRHP Listed
Lerma's Nite Club	NRHP Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Light House	NRHP Listed
Live Oak Park Site	NRHP Listed
Livingston-Hess House	NRHP Listed
Main and Military Plazas Historic District	NRHP Listed
Majestic Theatre	NRHP Listed
Maverick Building	NRHP Listed
Maverick-Altgelt Ranch and Fenstermaker-Fromme Farm	NRHP Listed
Maverick-Carter House	NRHP Listed
Meerscheidt, Otto, House	NRHP Listed
Menger Soap Works	NRHP Listed
Merchants Ice and Cold Storage Company	NRHP Listed
Meyer Pottery Archeological Complex (41BX128)	NRHP Listed
Milam Building	NRHP Listed
Milam, Ben, Statue	NRHP Listed
Miraflores Park	NRHP Listed
Mission Concepcion	NRHP Listed
Mission Parkway	NRHP Listed
Mission San Francisco de la Espada	NRHP Listed
Mission San Francisco de la Espada (Boundary Increase)	NRHP Listed
Mission San Juan Capistrano	NRHP Listed
Monastery of Our Lady of Charity	NRHP Listed
Monkey House/Commissary (San Antonio Zoo)	NRHP Listed
Monte Vista Residential Historic District	NRHP Listed
Morrison, William J., Jr., House	NRHP Listed
Navarro, Jose Antonio, Elementary School	NRHP Listed
Navarro, Jose Antonio, House Complex	NRHP Listed
Old Lone Star Brewery	NRHP Listed
Old Lone Star Brewery (Boundary Increase)	NRHP Listed
Our Lady of Mount Carmel and St. Therese Church	NRHP Listed
Partee, Hiram, House	NRHP Listed
Perez Rancho Site and Delores Crossing	NRHP Listed
Pershing House	NRHP Listed
Plehwe Complex	NRHP Listed
Poe Motor Company	NRHP Listed
Post Chapel, Fort Sam Houston	NRHP Listed
Presnall-Watson Homestead	NRHP Listed
Prospect Hill Missionary Baptist Church	NRHP Listed
Quadrangle, The	NRHP Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Randolph Field Historic District	NRHP Listed
Reinbolt Hall at St. Mary's University	NRHP Listed
Sacred Heart Conventual Chapel	NRHP Listed
Saint Anthony Hotel	NRHP Listed
Salado Battlefield and Archeological Site	NRHP Listed
San Antonio Casino Club Building	NRHP Listed
San Antonio City Cemeteries Historic District, Old	NRHP Listed
San Antonio Downtown and River Walk Historic District	NRHP Listed
San Antonio Drug Company	NRHP Listed
San Antonio Loan and Trust Building	NRHP Listed
San Antonio Missions National Historical Park	NRHP Listed
San Antonio National Cemetery	NRHP Listed
San Antonio US Post Office and Courthouse	NRHP Listed
San Antonio Water Works Pump Station No. 2	NRHP Listed
San Jose Mission National Historic Site	NRHP Listed
San Pedro Springs Park	NRHP Listed
Schroeder-Yturri House	NRHP Listed
Scottish Rite Cathedral	NRHP Listed
Selma Stagecoach Stop and Post Office	NRHP Listed
Smith-Young Tower	NRHP Listed
Source of the River District	NRHP Listed
South Alamo Street-South Mary's Street Historic District	NRHP Listed
Southern Pacific Depot Historic District	NRHP Listed
Southern Pacific Railroad Passenger Station	NRHP Listed
Spanish Governor's Palace	NRHP Listed
Specht’s Store and Schmidt’s Gin	NRHP Listed
St. John's Seminary	NRHP Listed
St. Louis Hall at St. Mary's University	NRHP Listed
St. Mark's Episcopal Church	NRHP Listed
Staacke Brothers Building	NRHP Listed
State Highway 3-A Bridge at Cibolo Creek	NRHP Listed
Stations of the Cross and Grotto at the Shrine of St. Anthony de Padua	NRHP Listed
Stevens Building	NRHP Listed
Thiele House and Thiele Cottage	NRHP Listed
Thomas Jefferson High School	NRHP Listed
Toltec, The	NRHP Listed
Travelers Hotel	NRHP Listed
Trinity University Historic District	NRHP Listed

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Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Trolley Stop in Alamo Heights	NRHP Listed
U.S. San Antonio Arsenal	NRHP Listed
Uhl, Gustav, House and Store	NRHP Listed
University of the Incarnate Word Administration Building	NRHP Listed
Ursuline Academy	NRHP Listed
Voelcker Farmstead Historic District	NRHP Listed
Vogel Belt Complex	NRHP Listed
Walker Ranch	NRHP Listed
Wedgwood, The	NRHP Listed
White, R.L., Ranch	NRHP Listed
Woodward, David J. and May Bock, House	NRHP Listed
Wright, L. T., House	NRHP Listed
Ximenes Chapel	NRHP Listed
Yturri-Edmunds House	NRHP Listed
1317 Guadalupe Street	NRHP Eligible
1408 El Paso Street	NRHP Eligible
1412 El Paso Street	NRHP Eligible
1426 El Paso Street	NRHP Eligible
812 South San Jacinto Street	NRHP Eligible
Aztec Theatre	NRHP Eligible
Brackenridge Park Multiple Resource District	NRHP Eligible
Building 156, Randolph Air Force Base	NRHP Eligible
Camp Stanley Historic District	NRHP Eligible
Fairmont Hotel	NRHP Eligible
Old Quarry Statuary and Niches, Mission Concepcion	NRHP Eligible
Rogers Site (41BX22)	NRHP Eligible
San Pedro Acequia	NRHP Eligible
Site 41BX1 North	NRHP Eligible
Texas Theatre	NRHP Eligible
Adina Emilia de Zavala	State Listed
Agudas Achim	State Listed
Alamo Masonic Cemetery	State Listed
Alamo Masonic Lodge	State Listed
Anchor Masonic	State Listed
Battle of Rosalis	State Listed
Beacon Light Masonic Lodge #50	State Listed
Bee, Hamilton P.	State Listed
Belgian Transit of Venus Observation Site	State Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Boldtville Schoolhouse	State Listed
Bueche Cemetery	State Listed
Bullis House	State Listed
Calvary	State Listed
Cantu	State Listed
City Cemetery #3	State Listed
City Cemetery No. 2	State Listed
City Cemetery No. 4	State Listed
City Cemetery No. 5	State Listed
City Cemetery No. 6	State Listed
City Cemetery No.1	State Listed
Colonel George Wythe Baylor C.S.A.	State Listed
Colonial Chapel Hill	State Listed
Confederate Cemetery	State Listed
Confederate Cemetery	State Listed
Cover Cemetery	State Listed
Dawson Massacre	State Listed
Dignowity	State Listed
Dodd Field (Fort Sam Houston) Enemy Alien Detention Station, World War II	State Listed
Driscoll, Clara	State Listed
Dullning Family	State Listed
East Mt. Calm	State Listed
Eastview Cemetery	State Listed
Eisenhauer Cemetery	State Listed
Elmendorf, Emil	State Listed
Fisk, James Nathaniel	State Listed
Fisk, Simona Smith	State Listed
Ford, John Salmon "Rip"	State Listed
Fort Sam Houston, 4th U.S. Army Headquarters Quadraline	State Listed
Ft. Sam Houston Natl. Cem.	State Listed
Gates of Heaven	State Listed
German Lutheran	State Listed
Goliad Road	State Listed
Grand United Order of Odd Fellows	State Listed
Hall, Lee, Captain	State Listed
Harbardier	State Listed
Harmonia Lodge No. 1	State Listed
Hermann Son's	State Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
Hermann Sons Converse	State Listed
Holy Spirit & Mary Immaculate	State Listed
Houston Road	State Listed
Incarnate Word	State Listed
Incarnate Word College	State Listed
John Lang Sinclair	State Listed
Keilmann Cemetery	State Listed
King, Charles Frederick	State Listed
Knights of Pythias	State Listed
Leick Cemetery	State Listed
Ludwig Mahncke	State Listed
Meadowlawn	State Listed
Miles, Col. Edward	State Listed
Mt. Olive	State Listed
Myra Lillian Davis Hemmings	State Listed
Nat Lewis Plot and Mausoleum	State Listed
Odd Fellows	State Listed
Old Powder Mill	State Listed
Panteon de Guadalupe Cemetery	State Listed
Ruiz House	State Listed
Saint Philip's College	State Listed
Saint Philip's Episcopal Church	State Listed
Salado Valley	State Listed
Salem Cemetery	State Listed
San Antonio Lodge #1	State Listed
San Antonio National	State Listed
San Pedro	State Listed
Second Baptist Church of San Antonio	State Listed
Site of the Camp of Stephen F. Austin	State Listed
Smith, Samuel S.	State Listed
St. Elmo Lodge No. 25 Cemetery	State Listed
St. Jerome	State Listed
St. John Lutheran	State Listed
St. Joseph's Catholic	State Listed
St. Joseph's Society	State Listed
St. Mary’s	State Listed
St. Michael's Catholic	State Listed
St. Paul United Methodist Church	State Listed

Table D-13
Historic Resources in the APE – SAT3 PADDC

Resource Name	Significance
St. Paul's Episcopal Church	State Listed
St. Peter Claver Catholic	State Listed
Sunset Memorial	State Listed
Temple Beth-El	State Listed
The Battle of the Salado	State Listed
Twohig House	State Listed
United Brothers of Friendship	State Listed
Unknown (E of Sunset Memorial Park Cem)	State Listed
Unknown (S. of Boltville) Cemetery	State Listed

Table D-14
Historic Resources in the APE – STX2 PADDC

Resource Name	Significance
Gilbert, Samuel and Julia, House	NHRP Listed
Jones Farm (41DN250 and 41DN248)	NHRP Eligible
McKamy House	NHRP Eligible
Braniff Airways/Dalfort Aerospace Facility at Dallas Love Field	NHRP Eligible
Addison State Bank	State Listed
Alex W. and Sarah Perry Homestead	State Listed
Bethel Cemetery	State Listed
Billl and Maude Dodson House	State Listed
Bullock Cemetery	State Listed
California Crossing	State Listed
Calvary Hill Cemetery	State Listed
Carrollton Black Cemetery	State Listed
Champion-Macedonia Cemetery	State Listed
Cochran Chapel Cemetery	State Listed
Cochran Chapel Methodist Church	State Listed
Cochran Homeplace (W. P.)	State Listed
Cox House	State Listed
Crown Hill Memorial Cemetery	State Listed
Dallas City Cemetery	State Listed
Farmers Branch Cemetery	State Listed
First Baptist Church of Farmers Branch	State Listed
First Baptist Church of Renner	State Listed
First Baptist Church, Hebron	State Listed
First Methodist Society, Dallas County's	State Listed
Forest Lawn Cemetery	State Listed
Frankford	State Listed
Frankford Cemetery	State Listed
Frankford Church	State Listed
Furneaux Cemetery	State Listed
Garvin Cemetery	State Listed
Garvin Memorial Cemetery	State Listed
Gilbert House	State Listed
Grapevine Springs Park	State Listed
Hill Cemetery	State Listed
Hilltop Memorial Park Cemetery	State Listed
Hockaday School	State Listed
Keenan Cemetery	State Listed
Keenan, John	State Listed

Table D-14
Historic Resources in the APE – STX2 PADDC

Resource Name	Significance
Korean Texans	State Listed
Letot Cemetery	State Listed
Marsh Cemetery	State Listed
Merrell Cemetery	State Listed
Mooneyham-Sparkman Family Cemetery	State Listed
Mount Pisgah Missionary Baptist Church	State Listed
Myers, David	State Listed
Northaven Park	State Listed
Old Letot Cemetery	State Listed
Parrish Cemetery	State Listed
Parrish Family Cemetery	State Listed
Perry Cemetery	State Listed
Pioneers of Mustang Branch	State Listed
Rawhide Creek and Park	State Listed
Riley Cemetery	State Listed
Round Grove Ch Cemetery	State Listed
Snyder-Kennedy Family Cemetery	State Listed
St. Mark's School of Texas	State Listed
Stingfellow-Moore Cemetery	State Listed
Texas International Pop Festival	State Listed
Texian Land and Emigration Company	State Listed
The Missouri Colony	State Listed
Union Baptist Church	State Listed
Ursuline Academy	State Listed
Ursuline Academy Cemetery	State Listed
Warner Cemetery	State Listed
Warner Family Cemetery	State Listed
Webb Chapel Cemetery	State Listed
White Rock Cemetery	State Listed
White Rock Chapel	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
511 Akard Building	NRHP Listed
Adamson, W.H., High School	NRHP Listed
Alcalde Street--Crockett School Historic District	NRHP Listed
Belo, Alfred Horatio, House	NRHP Listed
Bluitt Sanitarium	NRHP Listed
Bryan-Peak Commercial Historic District	NRHP Listed
Building at 3525 Turtle Creek Boulevard	NRHP Listed
Busch Building	NRHP Listed
Busch-Kirby Building (Boundary Increase)	NRHP Listed
Cedar Springs Place	NRHP Listed
Central Congregational Church	NRHP Listed
Chevrolet Motor Company Building	NRHP Listed
Colonial Hill Historic District	NRHP Listed
Continental Gin Company	NRHP Listed
Dallas Coffin Company	NRHP Listed
Dallas County Courthouse	NRHP Listed
Dallas Downtown Historic District	NRHP Listed
Dallas Downtown Historic District (Boundary Increase)	NRHP Listed
Dallas High School Historic District	NRHP Listed
Dallas National Bank	NRHP Listed
Dallas Scottish Rite Temple	NRHP Listed
Dallas Tent and Awning Building	NRHP Listed
Dallas Union Terminal	NRHP Listed
Dealey Plaza Historic District	NRHP Listed
Dixon-Moore House	NRHP Listed
Ellis, James H. and Molly, House	NRHP Listed
Emanuel Lutheran Church	NRHP Listed
Fidelity Union Life Insurance Building	NRHP Listed
Forest Avenue High School, Old	NRHP Listed
G & J Manufacturing	NRHP Listed
Goodyear Tire and Rubber Company Building and B.F. Goodrich Building	NRHP Listed
Grace Methodist Episcopal Church	NRHP Listed
Greenway Parks Historic District	NRHP Listed
Gulf Oil Distribution Facility	NRHP Listed
Harlan Building	NRHP Listed
Highland Park Shopping Village	NRHP Listed
Hilton Hotel	NRHP Listed
Hotel Adolphus	NRHP Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Houston Street Viaduct	NRHP Listed
Interstate Forwarding Company Warehouse	NRHP Listed
Kessler Park Historic District	NRHP Listed
Kessler Park Historic District (Boundary Increase)	NRHP Listed
King's Highway Historic District	NRHP Listed
Lake Cliff Historic District	NRHP Listed
Lancaster Avenue Commercial Historic District	NRHP Listed
Levi-Moses House	NRHP Listed
Levi-Topletz House	NRHP Listed
Lincoln Paint and Color Company Building	NRHP Listed
Magnolia Building	NRHP Listed
Magnolia Petroleum Company City Sales and Warehouse	NRHP Listed
Majestic Theatre	NRHP Listed
Mary Apartments	NRHP Listed
Medical Dental Building	NRHP Listed
Miller and Stemmons Historic District	NRHP Listed
Miller, John Hickman, House	NRHP Listed
Mitchell, John E., Company Plant	NRHP Listed
Monroe Shops	NRHP Listed
Mrs. Baird's Bread Company Building	NRHP Listed
North Bishop Avenue Commercial Historic District	NRHP Listed
Number 4 Hook and Ladder Company	NRHP Listed
Oak Lawn Methodist Episcopal Church, South	NRHP Listed
Parkland Hospital	NRHP Listed
Peak's Suburban Addition Historic District	NRHP Listed
Purvin--Hexter Building	NRHP Listed
Queen City Heights Historic District	NRHP Listed
Republic National Bank	NRHP Listed
Romine Avenue Historic District	NRHP Listed
Rosemont Crest Historic District	NRHP Listed
Rush--Crabb House	NRHP Listed
Sanger Brothers Complex	NRHP Listed
Santa Fe Terminal Building No. 4	NRHP Listed
Santa Fe Terminal Buildings No.1 and No. 2	NRHP Listed
South Boulevard-Park Row Historic District	NRHP Listed
Spake, Jacob and Eliza, House	NRHP Listed
St. Paul Methodist Episcopal Church	NHRP Listed
Stanard-Tilton Flour Mill	NRHP Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Stoneleigh Court Hotel	NRHP Listed
Tenth Street Historic District	NRHP Listed
Texas Centennial Exposition Buildings (1936--1937)	NRHP Listed
Texas Farm and Ranch Building	NRHP Listed
Texas Theatre	NRHP Listed
Titche-Goettinger Department Store	NRHP Listed
Trinity English Lutheran Church	NRHP Listed
Turtle Creek Pump Station	NRHP Listed
U.S. Courthouse and Federal Office Building	NHRP Listed
Waples-Platter Buildings	NRHP Listed
Wedgwood Apartments	NHRP Listed
Westend Historic District	NRHP Listed
Wheatley Place Historic District	NRHP Listed
Wilson Block	NRHP Listed
Wilson Building	NRHP Listed
Winnetka Heights Historic District	NRHP Listed
Braniff Airways/Dalfort Aerospace Facility at Dallas Love Field	NHRP Eligible
Building at 3001-3003 Texas	NHRP Eligible
Harwood Historic District	NHRP Eligible
Main Post Office	NHRP Eligible
State-Thomas Historic District	NHRP Eligible
Veterans Administration Medical Center - Dallas	NHRP Eligible
A.H. Belo Corporation	State Listed
Adolphus Hotel	State Listed
Alexander Mansion	State Listed
Antioch Life Park Cemetery	State Listed
Assassination of JFK, Site of	State Listed
Avion Village	State Listed
Baptist Standard	State Listed
Baylor College of Dentistry	State Listed
Baylor University Medical Center	State Listed
Belo, A.H.	State Listed
Bilbo Jitney Line	State Listed
Bowen, Ahab, Home	State Listed
Browder Springs	State Listed
Bryan, John Neely	State Listed
Bryan, John Neely (1810-1877) and Margaret Beeman Bryan (1825-1919)	State Listed
Busch-Kirby Building	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Calvary Cemetery	State Listed
Cedar Springs	State Listed
Central National Road	State Listed
Cherokees in Dallas	State Listed
City of Irving	State Listed
Cliff Temple Baptist Church	State Listed
Cockrell, Alexander; Sarah Horton Cockrell	State Listed
Communications in Dallas	State Listed
Continental Gin Company Showroom Building	State Listed
Cooke, Colonel William G.	State Listed
Copeland, H. V.	State Listed
Crockett, John McClannahan	State Listed
Cumberland Hill School	State Listed
Dallas Baby Camp	State Listed
Dallas Baptist University (Decatur Baptist College)	State Listed
Dallas City Hall	State Listed
Dallas County	State Listed
Dallas County Criminal Courts Bldg.	State Listed
Dallas County Records Building	State Listed
Dallas Morning News	State Listed
Dallas Scottish Rite Temple	State Listed
Dallas Symphony	State Listed
Dallas Zoo	State Listed
Darnell, Nicholas Henry	State Listed
Duncanville	State Listed
Eagle Ford Community	State Listed
East Dallas	State Listed
East Dallas Christian Church	State Listed
El Camposanto de...Trinity Portland Cemetery	State Listed
Emanu-el Cemetery	State Listed
Everard Sharrock, Jr. Farmstead	State Listed
First Baptist Church	State Listed
First Baptist Church of Irving	State Listed
First Christian Church of Duncanville	State Listed
First Ferry and Bridge	State Listed
First Juries to Sit Women in Dallas County	State Listed
First United Methodist Church of Dallas	State Listed
First United Methodist Church of Duncanville	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Five Mile Cemetery	State Listed
Flippen Homestead	State Listed
Fowler, Juliette Abbey Peak	State Listed
Frank Reagh	State Listed
Freedman's Cemetery	State Listed
Freedmans Memorial Park Cemetery	State Listed
Fuget Cemetery	State Listed
General Richard M. Gano House	State Listed
Giving Community Thanks	State Listed
Grace United Methodist Church	State Listed
Greenwood Cemetery	State Listed
Hensley Field	State Listed
Higginbotham - Bailey Building	State Listed
Higginbotham - Pearlstone Building	State Listed
Hilton Hotel	State Listed
Hoblitzelle, Karl St. John	State Listed
Horton Cemetery	State Listed
Interstate Forwarding Company Warehouse	State Listed
Joffre-Gilbert House	State Listed
John C. Pelt	State Listed
John Shelby Wisdom	State Listed
John W. Lane	State Listed
Jordan - Bowles House	State Listed
Jordan - Hight Family Cemetery	State Listed
Juanita Craft House	State Listed
Junction of the Texas & Pacific and Houston & Texas Central Railroads	State Listed
Kennedy Memorial Area	State Listed
Kit Community	State Listed
La Reunion Site	State Listed
La Reunion Cemetery	State Listed
Latimer, James W.	State Listed
Laurel Land Memorial Park Cemetery	State Listed
Ledbetter Family Cemetery	State Listed
Lisbon Cemetery	State Listed
Log Cabin Pioneers	State Listed
Love Field	State Listed
Macedonia Missionary Baptist Church	State Listed
Magnolia (Mobil) Building	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Majestic Theatre	State Listed
Maple Avenue	State Listed
McAdams Cemetery	State Listed
McNab Grocery	State Listed
Merrifield Cemetery	State Listed
Miller Family Cemetery	State Listed
Miller Log Cabin	State Listed
Miller, John Hickman	State Listed
Millermore	State Listed
Moorland YMCA Building	State Listed
Munger Avenue Baptist Church	State Listed
Music Room	State Listed
Near Homesite of Belle Boyd	State Listed
Neiman-Marcus	State Listed
North Dallas High School	State Listed
Oak Cliff Cemetery	State Listed
Oak Cliff Masonic Lodge	State Listed
Oak Cliff Presbyterian Church	State Listed
Oak Cliff United Methodist Church	State Listed
Oak Grove Memorial Park	State Listed
Oaklawn United Methodist Church	State Listed
Oath of Office of President Johnson	State Listed
Officer J.D. Tippit	State Listed
Old City Park	State Listed
Old Kit Cemetery	State Listed
Old Red Courthouse	State Listed
Old Southland Cemetery	State Listed
Original Site of the Coca-Cola Bottling Company of Dallas	State Listed
Overton Cemetery	State Listed
Parkland Hospital	State Listed
Pediatric Orthopedic Care in Texas	State Listed
Pierre Dusseau	State Listed
Pike Park	State Listed
Pioneer Cemetery	State Listed
Record, James K. Polk	State Listed
Reichenstein Home	State Listed
Robert E. Lee Park	State Listed
Robinson Family	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Samuel David Dealey, Jr.	State Listed
Sanger Brothers Department Store	State Listed
Schulze House	State Listed
Scott	State Listed
Shady Grove Road Bridge	State Listed
Site of the Dr. D. W. Gilbert Homestead	State Listed
Slaughter, Colonel C. C.	State Listed
Small Family	State Listed
Smith Cemetery	State Listed
Sons of Hermann in Dallas	State Listed
South Boulevard-Park Row Historic District	State Listed
South MacArthur Church of Christ	State Listed
Southland Cemetery, Old	State Listed
Southland Memorial Park	State Listed
St. Luke Catholic Church	State Listed
St. Paul United Methodist Church	State Listed
Stephen J. Hay School	State Listed
Stone, Barton Warren	State Listed
Struck Cemetery	State Listed
Sunset High School	State Listed
Temple Emanu-el Cemetery	State Listed
Tenth Street Historic District Freedmans Town	State Listed
Texas' First Airmail and Passenger Service	State Listed
Texas School Book Depository Building	State Listed
Texas Theatre	State Listed
The Crossroads	State Listed
The Hord Log Cabin	State Listed
Thomas L. Bradford	State Listed
Trinity Farms Cemetery	State Listed
Trinity Farms/Rancho Grande Cemetery	State Listed
Trinity Portland Cement Company Cemetery	State Listed
Trinity Presbyterian Church, USA	State Listed
Turtle Creek Pump Station	State Listed
Tyler Street United Methodist Church	State Listed
Union Bower Community	State Listed
Union Station	State Listed
W. H. Adamson High School	State Listed
Wesley Cockrell Cemetery	State Listed

Table D-15
Historic Resources in the APE – STX3 PADDC

Resource Name	Significance
Western Heights	State Listed
Western Heights Cemetery	State Listed
Western Heights Church of Christ	State Listed
Wheatland Cemetery	State Listed
Wheatland Methodist Church	State Listed
William Sidney Pittman	State Listed
Wilson Block	State Listed
Winnetka Heights	State Listed
Women's Suffrage in Dallas County	State Listed

Table D-16
Historic Resources in the APE – STX4 PADDC

Resource Name	Significance
Apollo Mission Control Center	NHRP Listed
Bayou Brae Historic District	NHRP Listed
Morgan's Point Historic District	NHRP Listed
Saturn V Launch Vehicle	NHRP Listed
Space Environment Simulation Laboratory	NHRP Listed
Sterling, Ross,S., House	NHRP Listed
Sylvan Beach Pavilion	NHRP Listed
Walker House	NHRP Listed
West, James and Jessie, Mansion	NHRP Listed
Archeological Site 41GV66	NRHP Eligible
Archeological Site 41HR18	NRHP Eligible
Battle of San Jacinto	State Listed
Bay Ridge/Morgan's Point	State Listed
Beasley	State Listed
Bethany Cemetery	State Listed
Cedarhurst	State Listed
Compton	State Listed
Deer Park	State Listed
Ellington Field	State Listed
Enoch Brinson & Pecan Grove Plantation	State Listed
Fairview Cemetery	State Listed
First Baptist Church of League City	State Listed
Forest Park East Cemetery	State Listed
Galveston County Poor Farm	State Listed
Galveston County Poor Farm	State Listed
Governor Ross Sterling Mansion	State Listed
Grandview Memorial Park Cemetery	State Listed
Gribble-Hofheinz Huse	State Listed
Hammer-Mcfaddin-Harris Cemetery	State Listed
Harris County Boy's School Archeological Site	State Listed
Harris, Captain William Plunkett	State Listed
Henry	State Listed
Houston Yacht Club	State Listed
Irvin, Wade and Mamie	State Listed
Isaiah P. Walker House	State Listed
Jackson-Wilson	State Listed
Kellerman	State Listed
Kemah	State Listed

Table D-16
Historic Resources in the APE – STX4 PADDC

Resource Name	Significance
La Porte	State Listed
Larabee	State Listed
League Park	State Listed
Mainland Mission Churches	State Listed
Markee	State Listed
Mennard	State Listed
Morgans Point Cemetery	State Listed
Morgan's Point Cemetery	State Listed
Morris, Ritson, and Elmwood Plantation	State Listed
New Washington	State Listed
Pratt Truss Bridge	State Listed
Prehistoric Indian Campsite	State Listed
Saint Mary's Seminary	State Listed
San Jacinto Community College District	State Listed
Seabrook Cemetery	State Listed
Seito and Kiyoaki Saibara	State Listed
St. Mary Mission Church	State Listed
T. J. and Mary Lelia Dick House	State Listed
Texas Army Attacked in Four Divisions	State Listed
Twilight	State Listed
Webster Presbyterian Church	State Listed
West Mansion	State Listed

Table D-17
Historic Resources in the APE – STX5 PADDC

Resource Name	Significance
Heights State Bank Building	NRHP Listed
Houston National Cemetery	NRHP Listed
Woodlawn Garden of Memories Cemetery	NRHP Listed
Archeological Site 41HR18	NRHP Eligible
Acres Homes Community	State Listed
Addicks Bear Creek	State Listed
Bear Creek Methodist Church and Cemetery	State Listed
Beth Israel Memorial Garden	State Listed
Beth Yeshurum-Post Oak Cemetery	State Listed
Cemetery Beautiful	State Listed
Fairbanks	State Listed
First Baptist Church of Houston	State Listed
Fuchs Cemetery	State Listed
Galilee Missionary Baptist Church	State Listed
George Washington Carver High School	State Listed
Greater Ward A.M.E. Church	State Listed
Hargrove Cemetery	State Listed
Heritage Presbyterian Church	State Listed
Hillendahl Cemetery	State Listed
Hillendahl-Eggling Cemetery	State Listed
Houston National Cem.	State Listed
Kinkaid School	State Listed
Memorial Oaks Cemetery	State Listed
Moore Log House	State Listed
Morse	State Listed
Paradise North	State Listed
Pilgrim Rest Cemetery	State Listed
Rest Lawn Cemetery	State Listed
Saint John United Church	State Listed
St. John Evangelical Lutheran	State Listed
St. Martin's Episcopal	State Listed
St. Peter Church	State Listed
St. Peter's Evangelical	State Listed
Unknown Grave Cemetery	State Listed
Vollmer Cemetery	State Listed
Woodlawn	State Listed

Table D-18
Historic Resources in the APE – STX6 PADDC

Resource Name	Significance
East Main Street Historic District	NRHP Listed
Hutto Commercial Historic District	NRHP Listed
Inn at Brushy Creek	NRHP Listed
Johnson, J. J., Farm	NRHP Listed
Merrell, Capt. Nelson, House	NRHP Listed
Round Rock Commercial Historic District	NRHP Listed
Round Rock Post Office and William M. Owen House	NRHP Listed
Archeological Districts of North Fork & Granger Lake	NRHP Eligible
Archeological Site 41TV291	NRHP Eligible
Archeological Site 41TV383	NRHP Eligible
Archeological Site 41wm570	NRHP Eligible
Archeological Site No. 41TV1106	NRHP Eligible
Archeological Site No. 41TV723	NRHP Eligible
Archeological Site No. 41TV735	NRHP Eligible
Archeological Site No. 41TV737	NRHP Eligible
Archeological Site No. 41TV738	NRHP Eligible
Archeological Site No. 41TV741	NRHP Eligible
Archeological Site No. 41TV742	NRHP Eligible
Archeological Site No. 41TV743	NRHP Eligible
Archeological Site No. 41TV747	NRHP Eligible
Archeological Site No. 41TV748	NRHP Eligible
Archeological Site No. 41TV749	NRHP Eligible
Archeological Site No. 41TV754	NRHP Eligible
Archeological Site No. 41TV755	NRHP Eligible
Archeological Site No. 41TV757	NRHP Eligible
Archeological Site No. 41TV758	NRHP Eligible
Archeological Site No. 41TV759	NRHP Eligible
Archeological Site No. 41TV760	NRHP Eligible
Archeological Site No. 41TV763	NRHP Eligible
Archeological Site No. 41TV766	NRHP Eligible
Archeological Site No. 41TV772	NRHP Eligible
Archeological Site No. 41TV778	NRHP Eligible
Archeological Site No. 41TV779	NRHP Eligible
Archeological Site No. 41TV793	NRHP Eligible
Archeological Site No. 41TV794	NRHP Eligible
Archeological Site No. 41TV795	NRHP Eligible
Archeological Site No. 41TV796	NRHP Eligible
Archeological Site No. 41TV797	NRHP Eligible

Table D-18
Historic Resources in the APE – STX6 PADDC

Resource Name	Significance
Archeological Site No. 41TV800	NRHP Eligible
Archeological Site No. 41TV804	NRHP Eligible
Archeological Site No. 41TV805	NRHP Eligible
Archeological Site No. 41TV807	NRHP Eligible
Archeological Site No. 41TV809	NRHP Eligible
Archeological Site No. 41TV822	NRHP Eligible
Archeological Site No. 41TV823	NRHP Eligible
Archeological Site No. 41TV824	NRHP Eligible
Archeological Site No. 41TV825	NRHP Eligible
Archeological Site No. 41TV828	NRHP Eligible
Archeological Site No. 41TV833	NRHP Eligible
Archeological Site No. 41TV834	NRHP Eligible
Archeological Site No. 41TV835	NRHP Eligible
Archeological Site No. 41TV836	NRHP Eligible
Archeological Site No. 41TV837	NRHP Eligible
Archeological Site No. 41TV839	NRHP Eligible
Archeological Site No. 41TV841	NRHP Eligible
Archeological Site No. 41TV842	NRHP Eligible
Archeological Site No. 41TV875	NRHP Eligible
Blockhouse Creek Archeological District	NRHP Eligible
Historical Site 41wm575	NRHP Eligible
Old Austin Public Library	NRHP Eligible
Site 41WM8	NRHP Eligible
U.S. Post Office - Taylor	NRHP Eligible
Waters Park Site 41TV286	NRHP Eligible
West-Adkisson Site (41WM566)	NRHP Eligible
1/2 Mile to the Site of Kenney's Fort	State Listed
A. J. and Carolina Anderson House	State Listed
Anti-Slaveholding Union Baptist	State Listed
Anti-Slaveholding Union Baptist Cemetery	State Listed
Barbette	State Listed
Barker House	State Listed
Bass, Sam	State Listed
Bohls House	State Listed
Boyce Family Cemetery	State Listed
Bratton	State Listed
Bratton Cemetery	State Listed
Broom Factory Building	State Listed

Table D-18
Historic Resources in the APE – STX6 PADDC

Resource Name	Significance
Cabin from Gabriel Mills Area	State Listed
Caldwell-Palm House	State Listed
Capitol Memorial Park	State Listed
Dessau Cemetery	State Listed
Early Commercial Building	State Listed
Education in Round Rock	State Listed
Evangelical Lutheran Church of Dessau	State Listed
Evangelical St. John Lutheran Cemetery	State Listed
Femster Cemetery	State Listed
Fortress Home	State Listed
Ganzert	State Listed
Gregg Cemetery	State Listed
Harrell	State Listed
Harrell Cemetery	State Listed
Home of A. J. Nelson	State Listed
Hopewell Round Rock Cemetery	State Listed
Hutto	State Listed
Hutto Baptist Church	State Listed
Hutto Cemetery	State Listed
Hutto Evangelical Lutheran Church	State Listed
Hutto Lutheran	State Listed
Hutto Lutheran Cemetery	State Listed
Hutto United Methodist Church	State Listed
Immanuel Evangelical Lutheran Church	State Listed
Immanuel Lutheran Church Cemetery	State Listed
Klattenhoff House	State Listed
MacNabb Home	State Listed
Major Robert McNutt	State Listed
McNeil	State Listed
McNutt	State Listed
Melber Lane Cemetery on old Faley- Saul property Cemetery	State Listed
Memorial Hill Park	State Listed
Merrilltown	State Listed
Merrilltown Cemetery	State Listed
Nelson-Crier House	State Listed
Oertli Dairy	State Listed
Old Round Rock	State Listed
Olson House	State Listed

Table D-18
Historic Resources in the APE – STX6 PADDC

Resource Name	Significance
Owen, William M., House Complex	State Listed
Oxley	State Listed
Palm Valley Lutheran	State Listed
Palm Valley Lutheran Church	State Listed
Palm, Andrew J., House	State Listed
Pfluger Cemetery	State Listed
Pflugerville	State Listed
Pflugerville Schools	State Listed
Pioneer Builders, In memory of the	State Listed
Reinke, Otto, Building	State Listed
Round Rock	State Listed
Round Rock Cemetery	State Listed
Round Rock Volunteer Fire Department	State Listed
Santa Maria Cemetery	State Listed
Saul	State Listed
Saul Cemetery	State Listed
Shiloh	State Listed
Shiloh Black	State Listed
Shiloh-McCutcheon Cemetery	State Listed
Site of Stony Point School	State Listed
Slave Burial Ground in Old Round Rock Cemetery	State Listed
Slave Burial Grounds	State Listed
St. John Church	State Listed
St. John's	State Listed
St. John's Cemetery	State Listed
St. Mary Missionary Baptist Church	State Listed
St. Mary's	State Listed
St. Mary's Baptist	State Listed
St. Mary's Catholic	State Listed
St. Stephen's Missionary Baptist Church	State Listed
The Double File Trail	State Listed
The Gault Homestead	State Listed
The Round Rock	State Listed
Trinity Lutheran College	State Listed
Union Hill Cemetery	State Listed
Walnut Creek Baptist Church	State Listed
Walnut Creek Church Cemetery	State Listed
Waters Park	State Listed

Table D-18
Historic Resources in the APE – STX6 PADDC

Resource Name	Significance
Wessels, T. F., Home	State Listed
Williamson County	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Alamo Methodist Church	NRHP Listed
Alamo National Bank Building	NRHP Listed
Alamo Plaza Historic District	NRHP Listed
Alamo Portland and Roman Cement Works	NRHP Listed
Alamo Stadium and Gymnasium	NRHP Listed
Alamo, The	NRHP Listed
Aurora Apartment Hotel	NRHP Listed
Aztec Theater	NRHP Listed
Barnes-Laird House	NRHP Listed
Barr Building	NRHP Listed
Bexar County Courthouse	NRHP Listed
Blue Star Street Industrial Historic District	NRHP Listed
Bonham, James Butler, Elementary School	NRHP Listed
Borden's Creamery	NRHP Listed
Brackenridge Park	NRHP Listed
Brady Building-Empire Theater	NRHP Listed
Brooke Army Medical Center	NRHP Listed
Builders Exchange Building	NRHP Listed
Burns Building	NRHP Listed
Bushnell	NRHP Listed
Calcasieu Building	NRHP Listed
Carver, George Washington, Library and Auditorium	NRHP Listed
Casa De Dios (House of God)	NRHP Listed
Central Trust Company Building	NRHP Listed
Chinese Sunken Garden Gate	NRHP Listed
Church of Nuestra Senora de la Candelaria y Guadalupe	NRHP Listed
City of San Antonio Municipal Auditorium	NRHP Listed
City Public Service Company Building	NRHP Listed
Clegg, L. B., House	NRHP Listed
Dionicio Rodriguez Bridge in Brackenridge Park	NRHP Listed
Dubuis Hall	NRHP Listed
Elmendorf, Emil, House	NRHP Listed
Fairmount Hotel, The	NRHP Listed
Fence at Alamo Cement Company	NRHP Listed
First National Bank of San Antonio	NRHP Listed
Fort Sam Houston	NRHP Listed
Fort Sam Houston National Cemetery	NRHP Listed
Fountain at Alamo Cement Company	NRHP Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Fourth Ward School	NRHP Listed
Franklin, Thomas H., House	NRHP Listed
Friedrich Complex	NRHP Listed
Garcia-Garza House	NRHP Listed
Goad Motor Company Building	NRHP Listed
Green, Robert B., Memorial Hospital	NRHP Listed
Guenther, Carl Hilmar, House	NRHP Listed
Gunter Hotel	NRHP Listed
Halff, A. H., House	NRHP Listed
Havana, The	NRHP Listed
Hays Street Bridge	NRHP Listed
Heidgen, Johann and Anna, House	NRHP Listed
Heimann Building	NRHP Listed
Hugo & Schmeltzer Company Warehouse	NRHP Listed
Institute of Texan Cultures	NRHP Listed
International & Great Northern Railroad Passenger Station	NRHP Listed
Jacala Restaurant	NRHP Listed
King William Historic District	NRHP Listed
La Villita Historic District	NRHP Listed
Lavaca Historic District	NRHP Listed
Lee, Robert E., Hotel	NRHP Listed
Light House	NRHP Listed
Livingston-Hess House	NRHP Listed
Main and Military Plazas Historic District	NRHP Listed
Majestic Theatre	NRHP Listed
Maverick Building	NRHP Listed
Maverick-Altgelt Ranch and Fenstermaker-Fromme Farm	NRHP Listed
Maverick-Carter House	NRHP Listed
Meerscheidt, Otto, House	NRHP Listed
Menger Soap Works	NRHP Listed
Merchants Ice and Cold Storage Company	NRHP Listed
Milam Building	NRHP Listed
Milam, Ben, Statue	NRHP Listed
Miraflores Park	NRHP Listed
Mission Concepcion	NRHP Listed
Mission Parkway	NRHP Listed
Monastery of Our Lady of Charity	NRHP Listed
Monkey House/Commissary (San Antonio Zoo)	NRHP Listed

Attachment B
MK30 Drone Flight Profile

Attachment C
Proposed Areas of Potential Effects

Attachment D
Listed and Eligible NHRP Resources

Attachment E
Consulted Parties

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Monte Vista Residential Historic District	NRHP Listed
Morrison, William J., Jr., House	NRHP Listed
Navarro, Jose Antonio, Elementary School	NRHP Listed
Navarro, Jose Antonio, House Complex	NRHP Listed
Navarro, Jose Antonio, House Complex	NRHP Listed
Old Lone Star Brewery	NRHP Listed
Old Lone Star Brewery (Boundary Increase)	NRHP Listed
Partee, Hiram, House	NRHP Listed
Perez Rancho Site and Delores Crossing	NRHP Listed
Pershing House	NRHP Listed
Poe Motor Company	NRHP Listed
Post Chapel, Fort Sam Houston	NRHP Listed
Presnall-Watson Homestead	NRHP Listed
Prospect Hill Missionary Baptist Church	NRHP Listed
Quadrangle, The	NRHP Listed
Saint Anthony Hotel	NRHP Listed
San Antonio Casino Club Building	NRHP Listed
San Antonio City Cemeteries Historic District, Old	NRHP Listed
San Antonio Downtown and River Walk Historic District	NRHP Listed
San Antonio Drug Company	NRHP Listed
San Antonio Missions National Historical Park	NRHP Listed
San Antonio National Cemetery	NRHP Listed
San Antonio US Post Office and Courthouse	NRHP Listed
San Antonio Water Works Pump Station No. 2	NRHP Listed
San Pedro Springs Park	NRHP Listed
Schroeder-Yturri House	NRHP Listed
Scottish Rite Cathedral	NRHP Listed
Smith-Young Tower	NRHP Listed
Source of the River District	NRHP Listed
South Alamo Street-South Mary's Street Historic District	NRHP Listed
Southern Pacific Depot Historic District	NRHP Listed
Southern Pacific Railroad Passenger Station	NRHP Listed
Spanish Governor's Palace	NRHP Listed
St. John's Seminary	NRHP Listed
St. Mark's Episcopal Church	NRHP Listed
Staacke Brothers Building	NRHP Listed
Stations of the Cross and Grotto at the Shrine of St. Anthony de Padua	NRHP Listed
Stevens Building	NRHP Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Thiele House and Thiele Cottage	NRHP Listed
Toltec, The	NRHP Listed
Travelers Hotel	NRHP Listed
Trinity University Historic District	NRHP Listed
Trolley Stop in Alamo Heights	NRHP Listed
U.S. San Antonio Arsenal	NRHP Listed
Uhl, Gustav, House and Store	NRHP Listed
University of the Incarnate Word Administration Building	NRHP Listed
Ursuline Academy	NRHP Listed
Voelcker Farmstead Historic District	NRHP Listed
Vogel Belt Complex	NRHP Listed
Woodward, David J. and May Bock, House	NRHP Listed
Wright, L. T., House	NRHP Listed
Ximenes Chapel	NRHP Listed
Yturri-Edmunds House	NRHP Listed
Brackenridge Park Multiple Resource District	NRHP Eligible
Old Quarry Statuary and Niches, Mission Concepcion	NRHP Eligible
Rogers Site (41BX22)	NRHP Eligible
San Pedro Acequia	NRHP Eligible
San Pedro Acequia	NRHP Eligible
Site 41BX1 North	NRHP Eligible
250th Anniversary of the Founding of San Antonio	State Listed
Acequia Madre de Valero	State Listed
Adina Emilia de Zavala	State Listed
Agudas Achim	State Listed
Alamo	State Listed
Alamo Cenotaph	State Listed
Alamo Low Barracks and Main Gateway	State Listed
Alamo Masonic Cemetery	State Listed
Alamo Masonic Lodge	State Listed
Alamo Portland and Roman Cement Company	State Listed
Alfred Giles Home	State Listed
Altgelt-Isbell House	State Listed
Anchor Masonic	State Listed
Anna Barbara and Johann Engelbert Heidgen House	State Listed
Argyle	State Listed
Arsenal Magazine	State Listed
Barbed Wire	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Barbed Wire Demonstration	State Listed
Battle of Rosalis	State Listed
Beacon Light Masonic Lodge #50	State Listed
Bee, Hamilton P.	State Listed
Belgian Transit of Venus Observation Site	State Listed
Bexar County Courthouse	State Listed
Bexar County under Nine Governments	State Listed
Biesenbach House	State Listed
Boldtville Schoolhouse	State Listed
Book Building	State Listed
Bowen's Island	State Listed
Brooks, Sidney J., Old Home	State Listed
Bueche Cemetery	State Listed
Bullis House	State Listed
Caile House	State Listed
Calvary	State Listed
Canary Islanders	State Listed
Casa Navarro	State Listed
Casas Reales	State Listed
Casino Club	State Listed
Casino Club Building, San Antonio	State Listed
Central Catholic High School	State Listed
Central Christian Church	State Listed
Chabot House	State Listed
Christ Episcopal Church	State Listed
Christopher Columbus Italian Society Hall	State Listed
City Cemetery No. 3	State Listed
City Cemetery No. 2	State Listed
City Cemetery No. 4	State Listed
City Cemetery No. 5	State Listed
City Cemetery No. 6	State Listed
City Cemetery No.1	State Listed
City/Milam Park Cemetery	State Listed
Clegg, L.B.	State Listed
Colonel George Wythe Baylor C.S.A.	State Listed
Colonial Chapel Hill	State Listed
Commerce Street Bridge	State Listed
Committee on Public Safety	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Confederate Cemetery	State Listed
Confederate Tannery	State Listed
Cos House	State Listed
David J. and May Bock Woodward House	State Listed
Dawson Massacre	State Listed
De Zavala, Adina	State Listed
Dignowity	State Listed
Dodd Field (Fort Sam Houston) Enemy Alien Detention Station, World War II	State Listed
Don Jose Miguel de Arciniega	State Listed
Driscoll, Clara	State Listed
Dullning Family	State Listed
Eagar House	State Listed
East Mt. Calm	State Listed
Eastview Cemetery	State Listed
Eisenhauer Cemetery	State Listed
El Quartel (El Cuartel)	State Listed
Elias and Lucy Edmonds House	State Listed
Elmendorf, Emil	State Listed
Emma Tenayuca	State Listed
Engleman-Muench House	State Listed
Ernst Homestead	State Listed
First Presbyterian Church of San Antonio	State Listed
Fisk, James Nathaniel	State Listed
Fisk, Simona Smith	State Listed
Ford, John Salmon "Rip"	State Listed
Fort Sam Houston, 4th U.S. Army Headquarters Quadraline	State Listed
Frost, T.C., and the Frost Bank	State Listed
Frost, T.C., Wool Warehouse	State Listed
Ft. Sam Houston Natl. Cem.	State Listed
Gates of Heaven	State Listed
German Lutheran	State Listed
German-English School	State Listed
Goliad Road	State Listed
Gould-Onderdonk House	State Listed
Grand United Order of Odd Fellows	State Listed
Groos National Bank	State Listed
Groos, Carl Wilhelm August, House	State Listed
Guenther's Upper Mill	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Gustav Blersch House	State Listed
Halff House	State Listed
Halff, Alexander and Alma Oppenheimer	State Listed
Hall, Lee, Captain	State Listed
Harmonia Lodge No. 1	State Listed
Hermann Son's	State Listed
Hermann Sons Converse	State Listed
Holy Spirit & Mary Immaculate	State Listed
Houston Road	State Listed
In Re Ricardo Rodriguez	State Listed
Incarnate Word	State Listed
Incarnate Word College	State Listed
Italian American Community in San Antonio	State Listed
J.M. and Birdie Nix House	State Listed
Jack Hays House	State Listed
Jay Adams House	State Listed
John Lang Sinclair	State Listed
Keilmann Cemetery	State Listed
King William Neighborhood	State Listed
King, Charles Frederick	State Listed
King, Dr. Claudius E.R.	State Listed
King's Highway	State Listed
Knights of Pythias	State Listed
La Villita	State Listed
Leick Cemetery	State Listed
Little Church of La Villita	State Listed
Lorant-Lorenz	State Listed
Ludwig Mahncke	State Listed
Madison Square Presbyterian Church	State Listed
Majestic Theatre	State Listed
Maverick, Samuel Augustos	State Listed
Maverick-Carter House	State Listed
Meadowlawn	State Listed
Menger Hotel	State Listed
Menger Soap Works	State Listed
Milam, Benjamin Rush	State Listed
Miles, Col. Edward	State Listed
Mill on the Pajalache Acequia	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Missionary Servants St. Anthony	State Listed
Monte Vista Historic District	State Listed
Moses Austin	State Listed
Myra Lillian Davis Hemmings	State Listed
Nat Lewis Plot and Mausoleum	State Listed
Navarro Houses	State Listed
Norton-Polk-Mathis House	State Listed
O. Henry House	State Listed
Odd Fellows	State Listed
Oge House	State Listed
Old Military Headquarters	State Listed
Old Powder Mill	State Listed
Old San Antonio National Bank Building	State Listed
Old San Pedro Springs	State Listed
Oscar and Rachel Berman House	State Listed
Otto Koehler House	State Listed
Pajalache Acequia	State Listed
Pan American Round Table	State Listed
Panteon de Guadalupe Cemetery	State Listed
Pereida House	State Listed
Perote Prisoners	State Listed
Perrin	State Listed
Perrin Home	State Listed
Petty House	State Listed
Plaza De Armas (Military Plaza)	State Listed
Portland Cement Plants	State Listed
Rechel-Stumpf House	State Listed
Route of El Camino Real	State Listed
Roy and Madge Hearne House	State Listed
Ruiz House	State Listed
Ruiz, Jose Francisco	State Listed
Saint Philip's College	State Listed
Saint Philip's Episcopal Church	State Listed
Salado	State Listed
Salado Valley	State Listed
San Antonio High School	State Listed
San Antonio Lodge #1	State Listed
San Antonio Mutual Aid Association	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
San Antonio National	State Listed
San Antonio Section, National Council of Jewish Women	State Listed
San Fernando Cathedral	State Listed
San Francisco Di Paola Catholic Church	State Listed
San Pedro	State Listed
San Pedro Creek	State Listed
Sartor House	State Listed
Schulmeier	State Listed
Schulze-Schilo House	State Listed
Scottish Rite Cathedral	State Listed
Second Baptist Church of San Antonio	State Listed
Seguin, Erasmo	State Listed
Silvestre Revueltas	State Listed
Site of de la Garza House, Gardens and Mint	State Listed
Site of Rincon/Douglas School	State Listed
Site of the Camp of Stephen F. Austin	State Listed
Smith, John W.	State Listed
Smith, Samuel S.	State Listed
Spanish Governor's Palace	State Listed
St. Anthony Catholic School	State Listed
St. Elmo Lodge No. 25 Cemetery	State Listed
St. Jerome	State Listed
St. John Lutheran	State Listed
St. John's Lutheran Church	State Listed
St. Joseph's Catholic	State Listed
St. Joseph's Church	State Listed
St. Joseph's Society	State Listed
St. Mark's Episcopal Church	State Listed
St. Mary’s	State Listed
St. Mary's College	State Listed
St. Michael's Catholic	State Listed
St. Paul United Methodist Church	State Listed
St. Paul's Episcopal Church	State Listed
St. Peter Claver Catholic	State Listed
St. Philip's College	State Listed
Staacke Brothers Building	State Listed
Stevens Building	State Listed
Stevens, Edward	State Listed

Table D-19
Historic Resources in the APE – STX7 PADDC

Resource Name	Significance
Steves Homestead	State Listed
Storming of Bexar	State Listed
Sunset Memorial	State Listed
Surrender of Federal Forces by General David E. Twiggs	State Listed
Temple Beth-El	State Listed
The Battle of the Salado	State Listed
The Mexican Village	State Listed
The Southwell Company	State Listed
The Woman's Club of San Antonio	State Listed
Thiele Cottage	State Listed
Toltec Apartments	State Listed
Travis Park United Methodist Church	State Listed
Twohig House	State Listed
United Brothers of Friendship	State Listed
United States San Antonio Arsenal	State Listed
unknown (E of Sunset Memorial Park Cem)	State Listed
Unknown (S. of Boltville) Cemetery	State Listed
unknown name	State Listed
Ursuline Convent and Academy	State Listed
Venustiano Carranza in San Antonio	State Listed
W. B. Teagarden House	State Listed
William and Mary Ann Richter House	State Listed
Wolfson House	State Listed
Woll Invasion	State Listed
Wulff, Anton	State Listed
Yturri Mill	State Listed
Zambrano House	State Listed
Zero Milestone Old Spanish Trail	State Listed

Table D-20
Historic Resources in the APE – STX8 PADDC

Resource Name	Significance
Garland Bank & Trust Company	NRHP Listed
Garland Downtown Historic District	NRHP Listed
Travis College Hill Historic District	NRHP Listed
Wilson, Ammie, House	NRHP Listed
Texas Pool	NRHP Listed
Plano Station, Texas Electric Railway	NRHP Listed
Saigling House	NRHP Listed
Plano Downtown Historic District	NRHP Listed
A. J. Head Service Station	State Listed
Axe Cemetery	State Listed
Bankhead Highway in Garland	State Listed
Bethany Cemetery	State Listed
Big Springs	State Listed
Biggs Cemetery	State Listed
Blewett	State Listed
Blewett Cemetery	State Listed
Bowman Cemetery	State Listed
Brown Cottage	State Listed
Brown, Thomas and Mattie	State Listed
City of Wylie	State Listed
Corinth Presbyterian Church	State Listed
Demonstration of the First Working Integrated Circuit	State Listed
First Baptist Church of Garland	State Listed
First Baptist Church of Murphy	State Listed
First Baptist Church of Plano	State Listed
First Baptist Church of Richardson	State Listed
First Christian Church of Garland	State Listed
First Christian Church of Plano	State Listed
First Methodist Church of Allen	State Listed
First Methodist Church of Garland	State Listed
First Methodist Church of Plano	State Listed
First Presbyterian Church of Garland	State Listed
First Presbyterian Church of Plano	State Listed
First Presbyterian Church of Richardson	State Listed
First United Methodist Church Richardson	State Listed
Fred Schimelpfenig Building	State Listed
Garland	State Listed
Garland Lodge No. 441, A.F. & A.M.	State Listed

Table D-20
Historic Resources in the APE – STX8 PADDC

Resource Name	Significance
Garland Memorial	State Listed
Garland-Mills	State Listed
Groves Cemetery	State Listed
Herring-Hogge Cemetery	State Listed
Hill - Robberson House	State Listed
Leach-Thomas Cemetery	State Listed
Mathews General Store	State Listed
Maxwell Cemetery	State Listed
McKamy Spring Park	State Listed
McMillen Cemetery	State Listed
Mills Cemetery	State Listed
Muncey Massacre	State Listed
Murphy Cemetery	State Listed
Murphy Community	State Listed
Murphy Family Cemetery	State Listed
Murphy School	State Listed
Old City Cemetery	State Listed
Pioneer	State Listed
Pioneer Cemetery	State Listed
Plano Cemetery	State Listed
Plano High School and Gymnasium	State Listed
Plano Mutual Cemetery	State Listed
Plano National Bank/I.O.O.F. Lodge Building	State Listed
Pleasant Valley Cemetery	State Listed
Public Education in Garland	State Listed
Race-Catlett Cemetery	State Listed
Restland Cemetery	State Listed
Richardson	State Listed
Roach Feed & Seed Company	State Listed
Routh	State Listed
Routh Family Cemetery	State Listed
Sachse	State Listed
Sachse Cemetery	State Listed
Sacred Heart Catholic Church of Rowlett	State Listed
Saigling House	State Listed
Santa Fe Railroad Depot	State Listed
Shiloh Baptist Church	State Listed
Texas Electric Railway Station	State Listed

Table D-20
Historic Resources in the APE – STX8 PADDC

Resource Name	Significance
The Ammie Wilson House	State Listed
Travis College Hill Addition	State Listed
W. D. McFarlin Building	State Listed
Wheeler School	State Listed
William and Charlotte Stone House, Stonehaven	State Listed
William Sachse Cemetery	State Listed
Wylie Methodist Church	State Listed

Table D-21
Historic Resources in the APE – STX9 PADDC

Resource Name	Significance
Anderson Stadium	NRHP Listed
Barr, William Braxton, House	NRHP Listed
Bluebonnet Tourist Camp	NRHP Listed
Covert, Frank M. and Annie G., House	NRHP Listed
Delwood Duplex Historic District	NRHP Listed
Evans Industrial Building	NRHP Listed
Gethsemane Lutheran Church	NRHP Listed
Hancock Golf Course	NRHP Listed
Hildreth-Flanagan--Heierman House	NRHP Listed
Hyde Park Historic District	NRHP Listed
McCauley, Robert H. and Edith Ethel, House	NRHP Listed
McFarland House	NRHP Listed
Montopolis Bridge	NRHP Listed
Moonlight Towers	NRHP Listed
Ney, Elisabet, Studio and Museum	NRHP Listed
Page--Gilbert House	NRHP Listed
Parque Zaragoza	NRHP Listed
Perry Estate--St. Mary's Academy	NRHP Listed
Ramsey, F. T. and Belle, House	NRHP Listed
Robbins, Alice H., House	NRHP Listed
Shadow Lawn Historic District	NRHP Listed
Shipe, Col. Monroe M., House	NRHP Listed
Wilshire Historic District	NRHP Listed
Archeological Site 41TV291	NRHP Eligible
Archeological Site 41TV383	NRHP Eligible
Archeological Site No. 41TV1106	NRHP Eligible
Archeological Site No. 41TV723	NRHP Eligible
Archeological Site No. 41TV735	NRHP Eligible
Archeological Site No. 41TV737	NRHP Eligible
Archeological Site No. 41TV738	NRHP Eligible
Archeological Site No. 41TV741	NRHP Eligible
Archeological Site No. 41TV742	NRHP Eligible
Archeological Site No. 41TV743	NRHP Eligible
Archeological Site No. 41TV747	NRHP Eligible
Archeological Site No. 41TV748	NRHP Eligible
Archeological Site No. 41TV749	NRHP Eligible
Archeological Site No. 41TV754	NRHP Eligible
Archeological Site No. 41TV755	NRHP Eligible

Table D-21
Historic Resources in the APE – STX9 PADDC

Resource Name	Significance
Archeological Site No. 41TV757	NRHP Eligible
Archeological Site No. 41TV758	NRHP Eligible
Archeological Site No. 41TV759	NRHP Eligible
Archeological Site No. 41TV760	NRHP Eligible
Archeological Site No. 41TV763	NRHP Eligible
Archeological Site No. 41TV766	NRHP Eligible
Archeological Site No. 41TV772	NRHP Eligible
Archeological Site No. 41TV778	NRHP Eligible
Archeological Site No. 41TV779	NRHP Eligible
Archeological Site No. 41TV793	NRHP Eligible
Archeological Site No. 41TV794	NRHP Eligible
Archeological Site No. 41TV795	NRHP Eligible
Archeological Site No. 41TV796	NRHP Eligible
Archeological Site No. 41TV797	NRHP Eligible
Archeological Site No. 41TV800	NRHP Eligible
Archeological Site No. 41TV804	NRHP Eligible
Archeological Site No. 41TV805	NRHP Eligible
Archeological Site No. 41TV807	NRHP Eligible
Archeological Site No. 41TV809	NRHP Eligible
Archeological Site No. 41TV822	NRHP Eligible
Archeological Site No. 41TV823	NRHP Eligible
Archeological Site No. 41TV824	NRHP Eligible
Archeological Site No. 41TV825	NRHP Eligible
Archeological Site No. 41TV828	NRHP Eligible
Archeological Site No. 41TV833	NRHP Eligible
Archeological Site No. 41TV834	NRHP Eligible
Archeological Site No. 41TV835	NRHP Eligible
Archeological Site No. 41TV836	NRHP Eligible
Archeological Site No. 41TV837	NRHP Eligible
Archeological Site No. 41TV839	NRHP Eligible
Archeological Site No. 41TV841	NRHP Eligible
Archeological Site No. 41TV842	NRHP Eligible
Archeological Site No. 41TV875	NRHP Eligible
Conner, Dr. Beadie E. and Willie R., House and Park	NRHP Eligible
Old Austin Public Library	NRHP Eligible
Waters Park Site 41TV286	NRHP Eligible
Addcox House	State Listed
Annie Webb Blanton	State Listed

Table D-21
Historic Resources in the APE – STX9 PADDC

Resource Name	Significance
Austin State Hospital Cemetery	State Listed
Austin State Hospital Cemetery	State Listed
Barr Mansion	State Listed
Bedford Memorial Cemetery	State Listed
Bethany	State Listed
Bethany Cemetery	State Listed
Bloor House	State Listed
Boyce Family Cemetery	State Listed
Brown, H Cemetery	State Listed
Burleson Family Cemetery	State Listed
City of Manor	State Listed
Clayton Vocational Institute	State Listed
Decker Cemetery	State Listed
Decker Swedish Evangelical Free Church and Cemetery	State Listed
Decker United Methodist Church and Community	State Listed
Dessau Cemetery	State Listed
Easley	State Listed
Elisabet Ney	State Listed
Elisabet Ney Home	State Listed
Evangelical Free Church Memorial Garden Cemetery	State Listed
Evangelical Lutheran Church of Dessau	State Listed
Evergreen	State Listed
First Colored Baptist Church	State Listed
First Cumberland Presbyterian Church of Austin	State Listed
Fiskville	State Listed
Fortress Home	State Listed
Gilleland Cemetery	State Listed
Glasscock #1 Cemetery	State Listed
Gonzales Simon Family Cemetery	State Listed
Gregg Cemetery	State Listed
Hancock Recreation Center	State Listed
Henry G. Madison Cabin	State Listed
Hill Family Cemetery	State Listed
Hodnette House	State Listed
Hornsby	State Listed
Hornsby Cemetery	State Listed
Hornsby Mexican Cemetery	State Listed
Hunter Cemetery	State Listed

Table D-21
Historic Resources in the APE – STX9 PADDC

Resource Name	Significance
Hyde Park	State Listed
Ike E. Brown	State Listed
Immanuel Evangelical Lutheran Church	State Listed
Immanuel Lutheran Church Cemetery	State Listed
Jerry W. Brown	State Listed
Jones (3 sections) Cemetery	State Listed
Jourdan-Giles Cemetery	State Listed
Kopperl House	State Listed
L.C. Anderson High School and Integration of Austin's Public Schools	State Listed
Lockwood Cem	State Listed
Lockwood Cemetery	State Listed
Manor Cemetery	State Listed
Maud Anna Berry Smith Fuller	State Listed
Methodist Episcopal Church of Mount Salem Cemetery	State Listed
Mount Calvary Cemetery	State Listed
Oertli Dairy	State Listed
Park Springs	State Listed
Pfluger Cemetery	State Listed
Philquist-Wood House	State Listed
Plummer Cemetery	State Listed
Puckett Cemetery	State Listed
Rector Cemetery	State Listed
Rogers Hill-Burleson Cemetery	State Listed
Rose Hill Cemetery	State Listed
Rosewood Park	State Listed
Site of Fort Colorado	State Listed
Site of Pecan Springs School	State Listed
Sneed-McArthur	State Listed
St. Mary's Catholic	State Listed
St. Paul’s Baptist Cemetery	State Listed
The Old Zimmerman Home	State Listed
The Shipe House	State Listed
Travis County International	State Listed
Travis State School	State Listed
University Interscholastic League	State Listed
Unknown at Hornsby Bend Cemetery	State Listed
Walnut Creek Baptist Church	State Listed
Walnut Creek Cemetery	State Listed

Table D-21
Historic Resources in the APE – STX9 PADDC

Resource Name	Significance
Walnut Creek Church Cemetery	State Listed
Wells-LaRue House	State Listed
Williams-Weigl House	State Listed

Table D-22
Historic Resources in the APE – ELP1 PADDC

Resource Name	Significance
El Paso County Water Improvement District No. 1	NRHP Listed
Franklin Canal	NRHP Listed
Rio Vista Farm Historic District	NRHP Listed
San Elizario Historic District	NRHP Listed
Ysleta Mission	NRHP Listed
Archeological Site 41EP289	NRHP Eligible
Archeological Site 41EP321	NRHP Eligible
Site E.P.C.M. 31:106:3:1717	NRHP Eligible
Site E.P.C.M.:32	NRHP Eligible
Site E.P.C.M.:33	NRHP Eligible
Site E.P.C.M.:34	NRHP Eligible
Site E.P.C.M.:36	NRHP Eligible
Site E.P.C.M.:37	NRHP Eligible
Alderete - Candelaria House	State Listed
Casa Ortiz	State Listed
Clint Cemetery	State Listed
Corpus Christi de la Ysleta	State Listed
Early Site of Socorro Mission	State Listed
First Mission in Texas	State Listed
Granja Rio Vista	State Listed
Jones, Captain Frank	State Listed
Lugar Inicial De Mision De Socorro	State Listed
Mission Nuestra Senora de la Purisima Concepcion Del Socorro	State Listed
Mt. Carmel Cemetery	State Listed
Oldest Mission in Texas	State Listed
Rio Vista Farm	State Listed
San Antonio de Senecu	State Listed
San Elizario Cemetery	State Listed
San Lorenzo Cemetery	State Listed
Socorro	State Listed
Socorro Mission Cemetery	State Listed
Socorro Mission La Purisima	State Listed
The Camino Real	State Listed
Tienda de Carbajal, Site of	State Listed
Ysleta Cemetery	State Listed

Appendix D-2
Tribal Consultation

U.S. Department of Transportation
Federal Aviation Administration

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Governor E. Michael Silvas
Ysleta del Sur Pueblo
P.O. Box 17579 Ysleta Station
El Paso, TX 79917

Transmitted via email and mail: Michael.silvas@ydsp-nsn.gov

RE: Invitation for Government-to-Government Tribal Consultation for Drone Package Delivery Operations in Texas

Dear Governor Silvas**,**

The purpose of this letter is to initiate formal government-to-government consultation regarding a proposal under consideration by the Federal Aviation Administration (FAA) to authorize commercial Unmanned Aircraft Systems (UAS) operators to deliver goods to customers (referred to as package delivery) using unmanned aircraft (also referred to as drones) in accordance with 14 Code of Federal Regulations Part 135 (Part 135) in the state of Texas. The FAA is the lead federal agency for government-to-government consultation for the proposed project. Amazon.com Services LLC, doing business as Amazon Prime Air, is the proponent of the project. We wish to solicit your views regarding potential effects on tribal interests in the areas of operation.

The primary purpose of government-to-government consultation is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes. This policy is provided in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*; Presidential Memorandum, *Uniform Standards for Tribal Consultation*; DOT Order 5301.1A, *Department of Transportation Tribal Consultation Policy and Procedures*; and FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*.

Consultation Initiation

With this letter, the FAA is seeking input concerning any Tribal lands or sites of religious or cultural significance that may be affected by the proposed operation. Early identification of Tribal concerns, or known properties of traditional, religious, and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources. We are available to discuss the details of the proposed project with you.

Proposed Activity Description

The FAA is preparing an Environmental Assessment to assess the potential environmental impacts of commercial package delivery operations using drones in the state of Texas under Part 135. Since 2019,

the FAA has been issuing air carrier certificates to UAS operators in accordance with Part 135 so that operators can conduct package delivery flights. Generally, these approvals are associated with issuing a new or amended Part 135 air carrier Operations Specifications as the operative approval. For your reference, the project description used for consultation under Section 106 is enclosed with this letter.

Confidentiality

We understand that you may have concerns about the confidentiality of information on areas or resources of traditional, religious, and cultural importance to your Tribe. We are available to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

Your timely response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. In addition, we respectfully request your response in the event that the Ysleta del Sur Pueblo would like to consult with the FAA in a government-to-government relationship about this proposal. Please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter to confirm your intent to participate in this government-to-government consultation.

Sincerely,

Enclosure:
Attachment A – Section 106 Consultation Package

CC: Mr. Omar Villanueva
Tribal Historic Preservation Officer

RE: Invitation for Government-to-Government Tribal Consultation for Drone Package Delivery Operations in Texas

DEREK W HUFTY Digitally signed by DEREK W HUFTY
Date: 2025.05.15 08:45:27 -04'00'

Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Attachment A
Section 106 Consultation Package

U.S. Department of Transportation
Federal Aviation Administration

Aviation Safety

800 Independence Ave., SW.
Washington, DC 20591

Mr. Omar Villanueva
Tribal Historic Preservation Officer
Ysleta del Sur Pueblo
P.O. Box 17579 Ysleta Station
El Paso, TX 79917

Transmitted via e-mail and mail: ovillanueva@ydsp-nsn.gov

Dear Mr. Villanueva,

The Federal Aviation Administration (FAA) is currently evaluating Amazon Prime Air's proposal to conduct commercial drone delivery operations in the state of Texas. Amazon Prime Air must obtain approval from the FAA prior to introducing operations and operating the MK30 drone. The FAA has determined that its proposed action, which would encompass all FAA approvals necessary to enable operations, is an undertaking as defined under the regulations implementing Section 106 of the National Historic Preservation Act (NHPA) (36 CFR § 800.16(y)). The purpose of this letter is to initiate Section 106 consultation with the Ysleta del Sur Pueblo and to solicit your views regarding potential effects on tribal interests in the areas of operation. The FAA has begun an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to analyze the proposed action. FAA intends to complete consultation for Section 106 of the NHPA concurrently with the NEPA process.

Project Description

Amazon Prime Air is proposing to transport consumer goods via drone delivery in the communities around the state of Texas by using the MK30 drone. The MK30 drone would take off from a Prime Air Drone Delivery Center (PADDC), which has already been constructed, and quickly rise to a cruising altitude of between 180 to 377 feet above ground level (AGL). The MK30 drone weighs approximately 87 pounds and can transport a small package up to about 5 pounds. The MK30 drone has an approximate 7.5-mile service radius. Once at the delivery site, the MK30 drone hovers in place at about 13 feet AGL and drops the package to the ground. Once the package has been delivered, the drone flies back to the PADDC at roughly the same altitude.

Amazon Prime Air is proposing up to 1,000 MK30 drone flights per day from each of 22 proposed PADDCs located in metropolitan areas across Texas, with each flight taking a package to a customer delivery address before returning. There is variability in the number of flights per day based on customer demand and weather conditions. Initially, Amazon Prime Air expects to fly much less than 1,000 flights per day from each PADDC and gradually ramp up to the proposed level as consumer demand increases. Drone flights are planned to occur up to 365 days a year, with operations being conducted between 7 A.M. and 10 P.M. There are no ground disturbing activities associated with this proposed action.

Area of Potential Effects

In accordance with 36 CFR § 800.4(a)(1), the FAA has defined the Area of Potential Effects (APE) in consideration of the undertaking's potential direct and indirect effects. The proposed APEs have been coordinated with the Texas Historical Commission and would be located in metropolitan areas across the state of Texas, which generally include densely populated or congested regions. The enclosed map (see **Attachment A**) shows the proposed APEs in detail.

Identification of Historic Properties

The proposed undertaking does not have the potential to affect below ground or archeological resources because the undertaking does not include ground disturbance but could result in auditory or visual effects. Therefore, the FAA focused its identification efforts on above-ground historic properties.

Consultation

The FAA is now soliciting the opinion of the tribes concerning any tribal lands, or sites of religious or cultural significance that may be affected by the proposed operations areas. Your response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. If you have any questions or need additional information, please contact Christopher Hurst via email at 9-faa-drone-environmental@faa.gov within 30 days of receipt of this letter.

Sincerely,

Enclosure:
Attachment A – Proposed Areas of Potential Effects

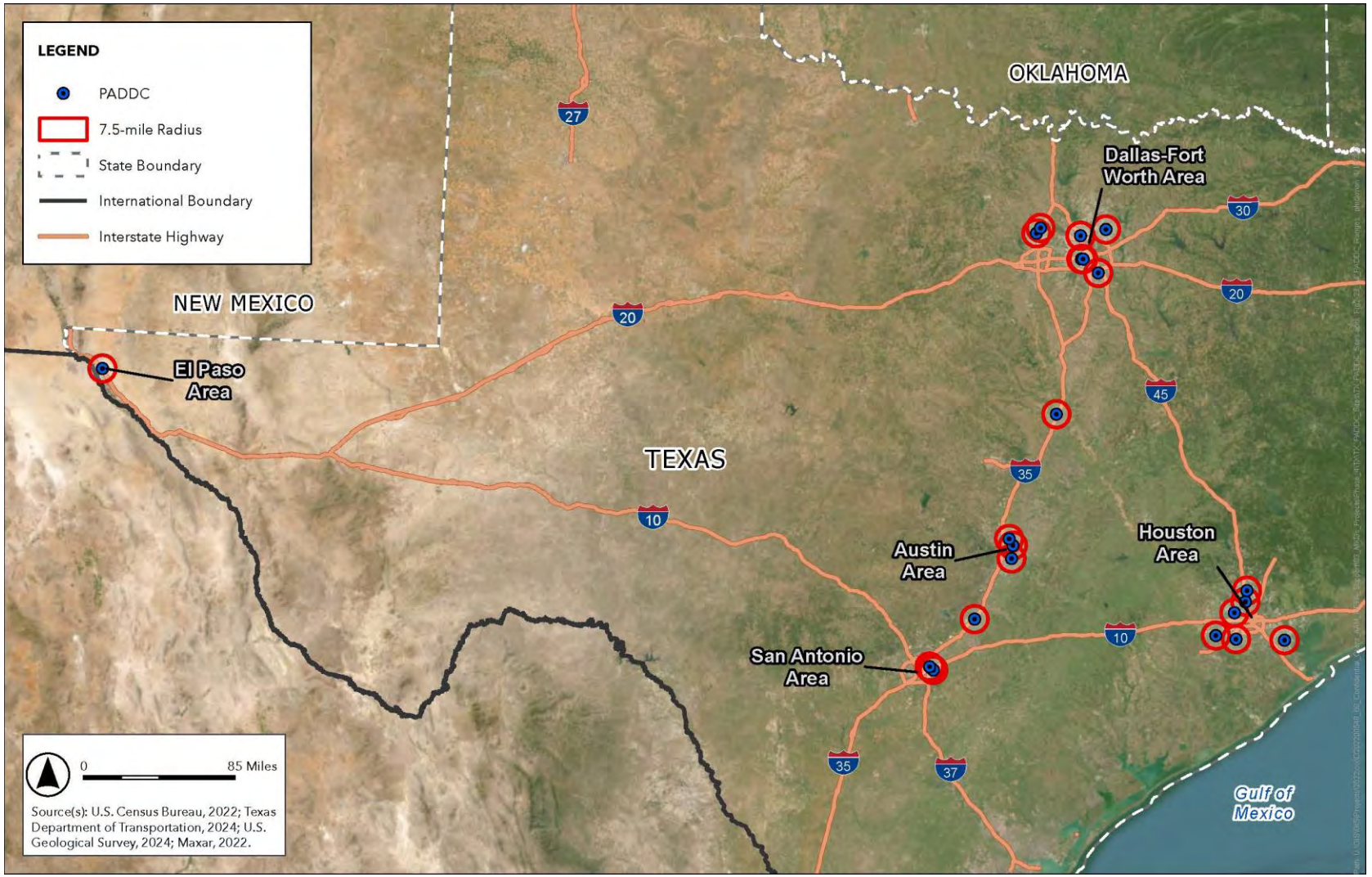
RE: Invitation for Section 106 of the National Historic Preservation Act Tribal Consultation for Drone Package Delivery Operations in Texas

DEREK W HUFTY

Digitally signed by DEREK W HUFTY
Date: 2025.05.15 08:45:49 -04'00'

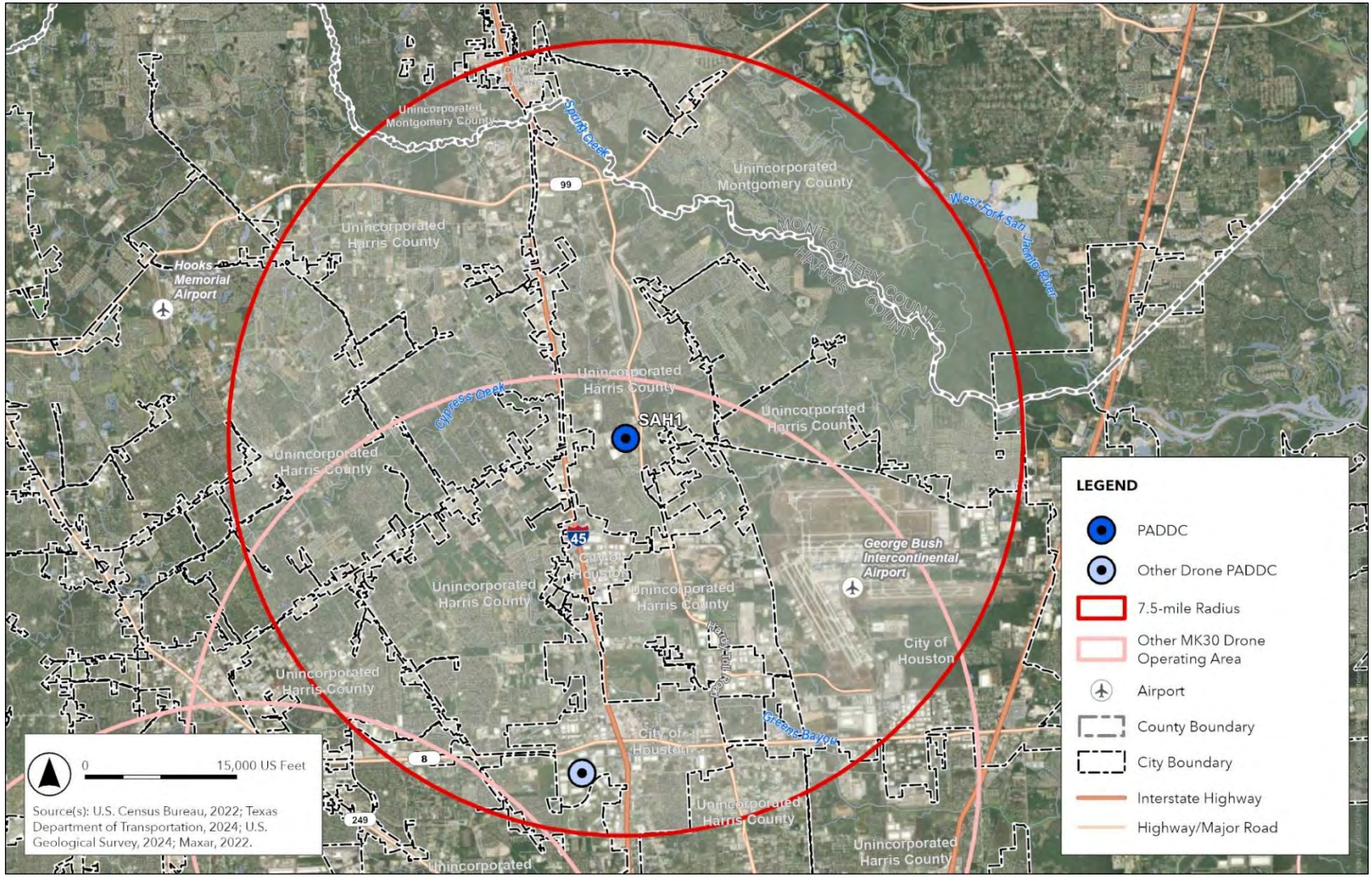
Derek Hufty
Manager, General Aviation and Commercial Branch (AFS-750)
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service

Attachment A
Proposed Areas of Potential Effects



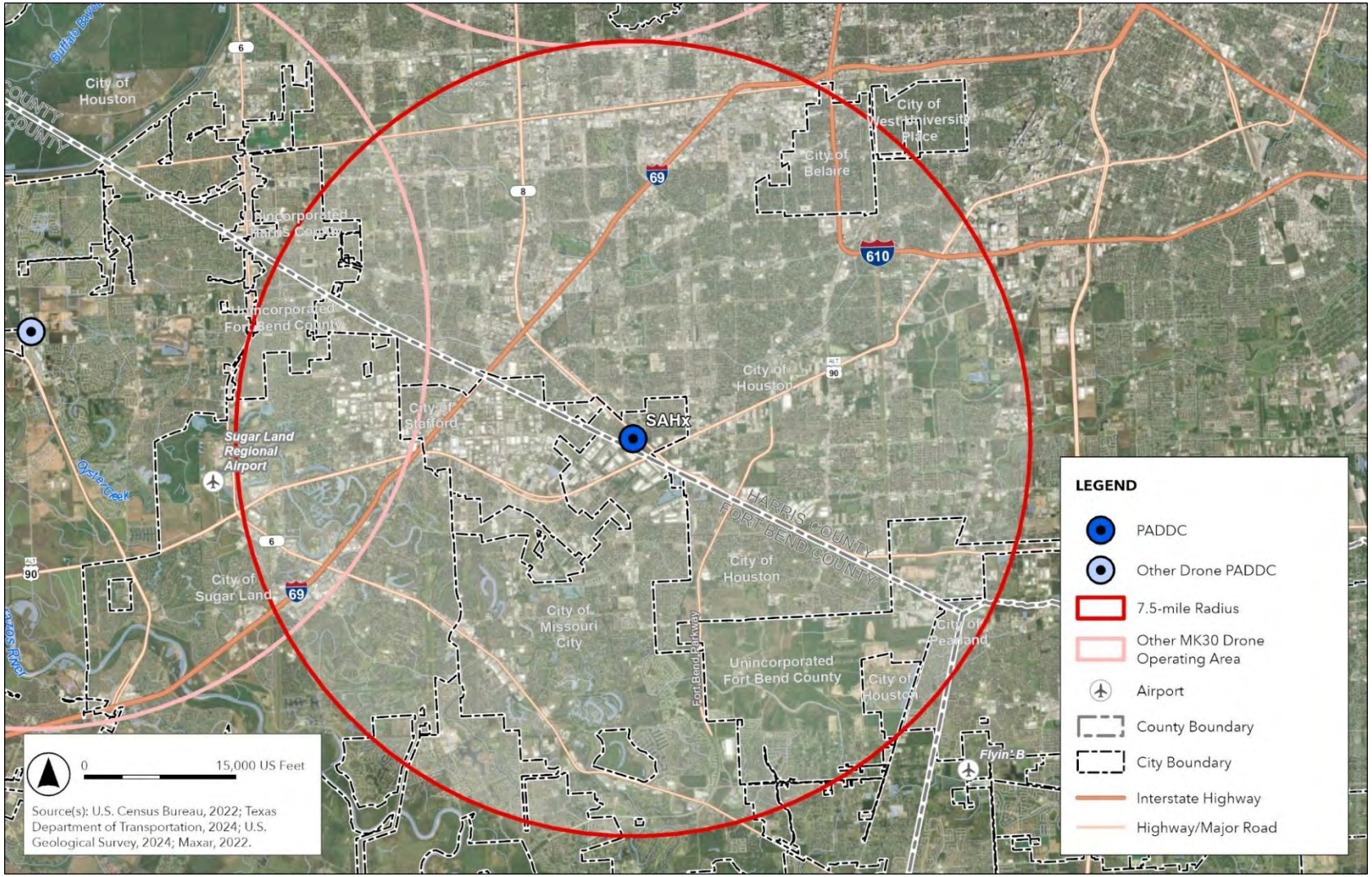
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; US Geological Survey, 2024; Maxar, 2022.

Figure 1
Areas of Potential Effects – All PADDCs



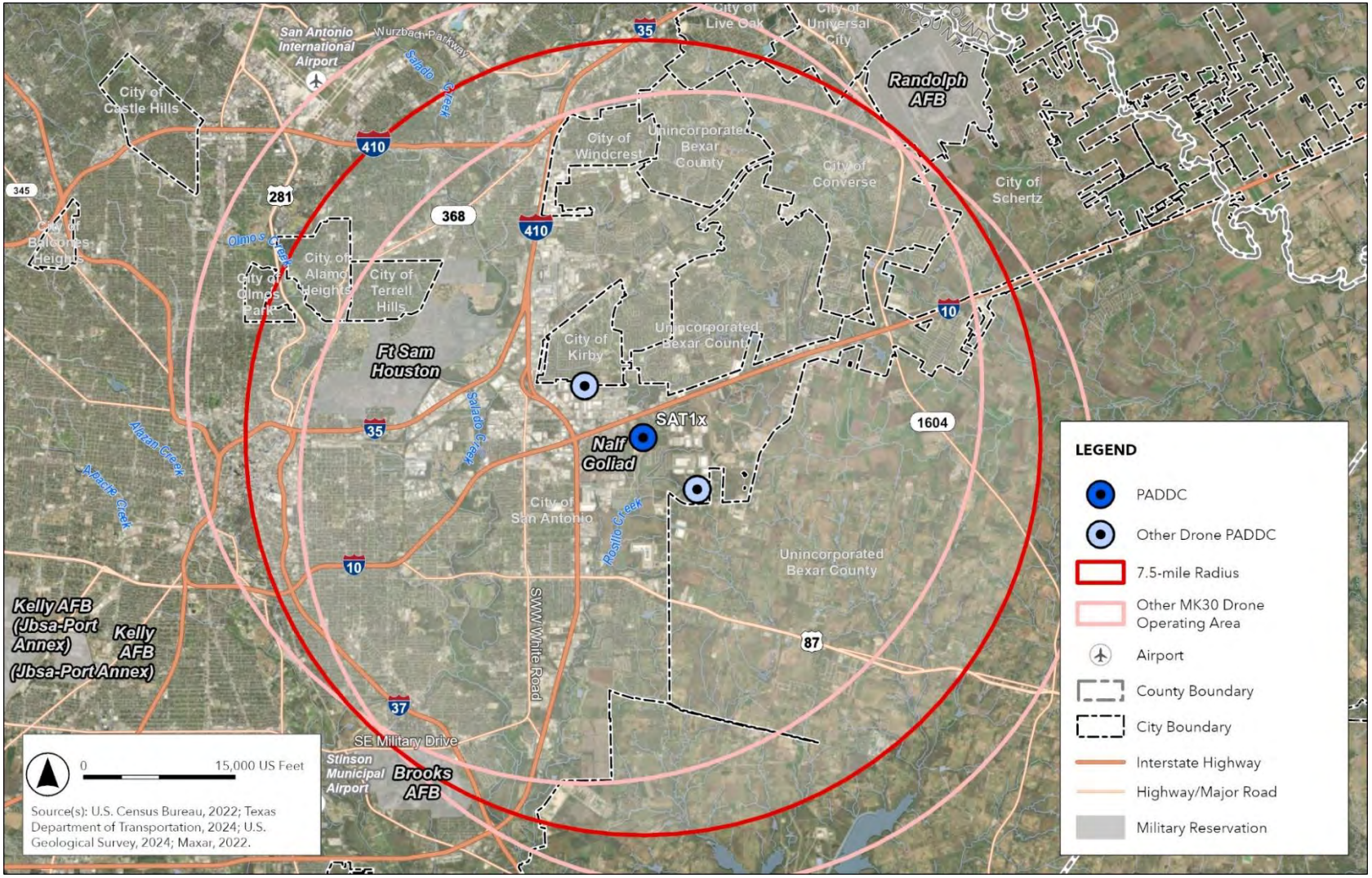
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024 Maxar, 2022.

Figure 2
SAH1 Drone Operation Area of Potential Effects



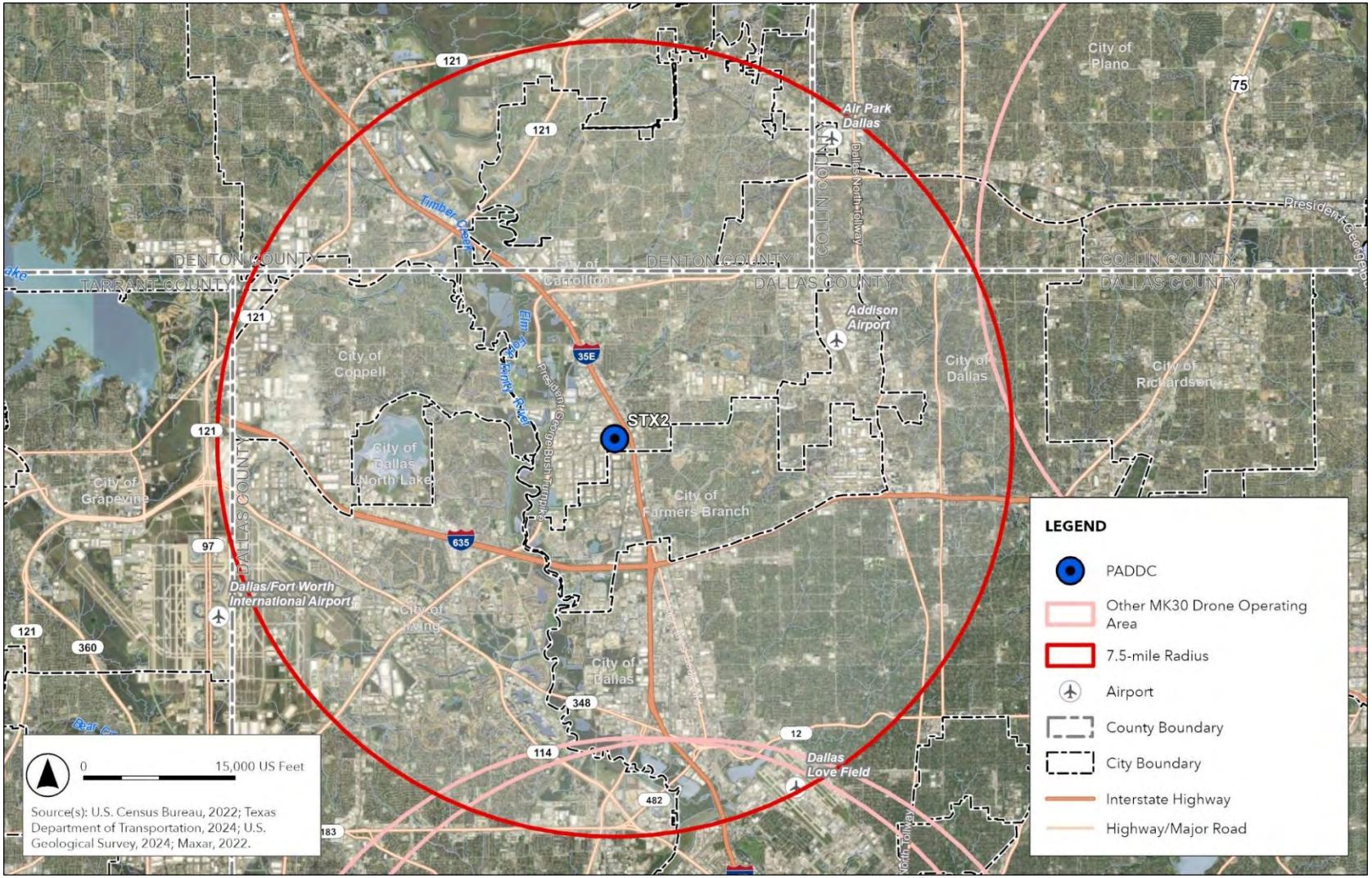
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 3
SAHx Drone Operation Area of Potential Effects



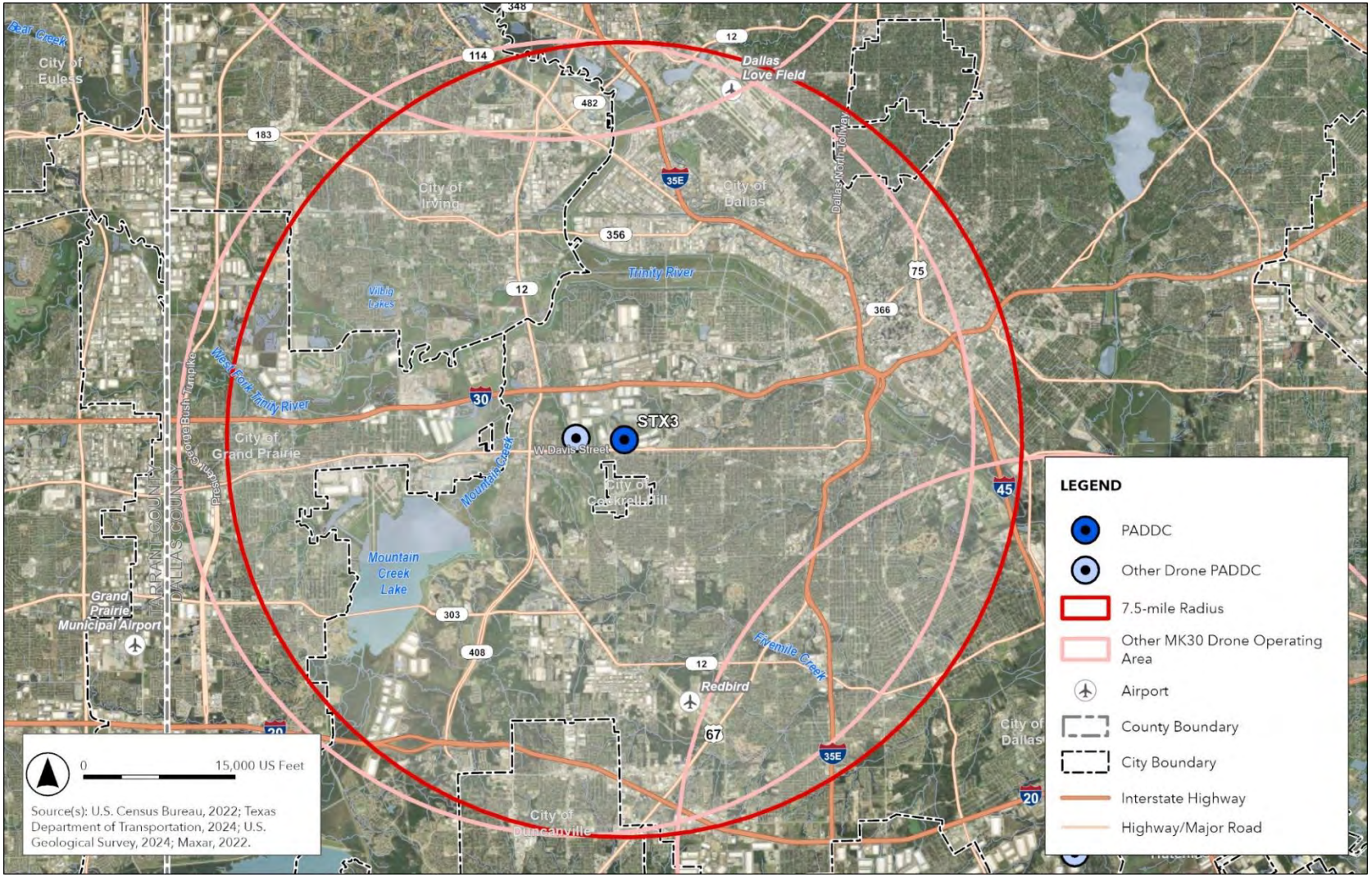
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 4
SAT1x Drone Operation Area of Potential Effects



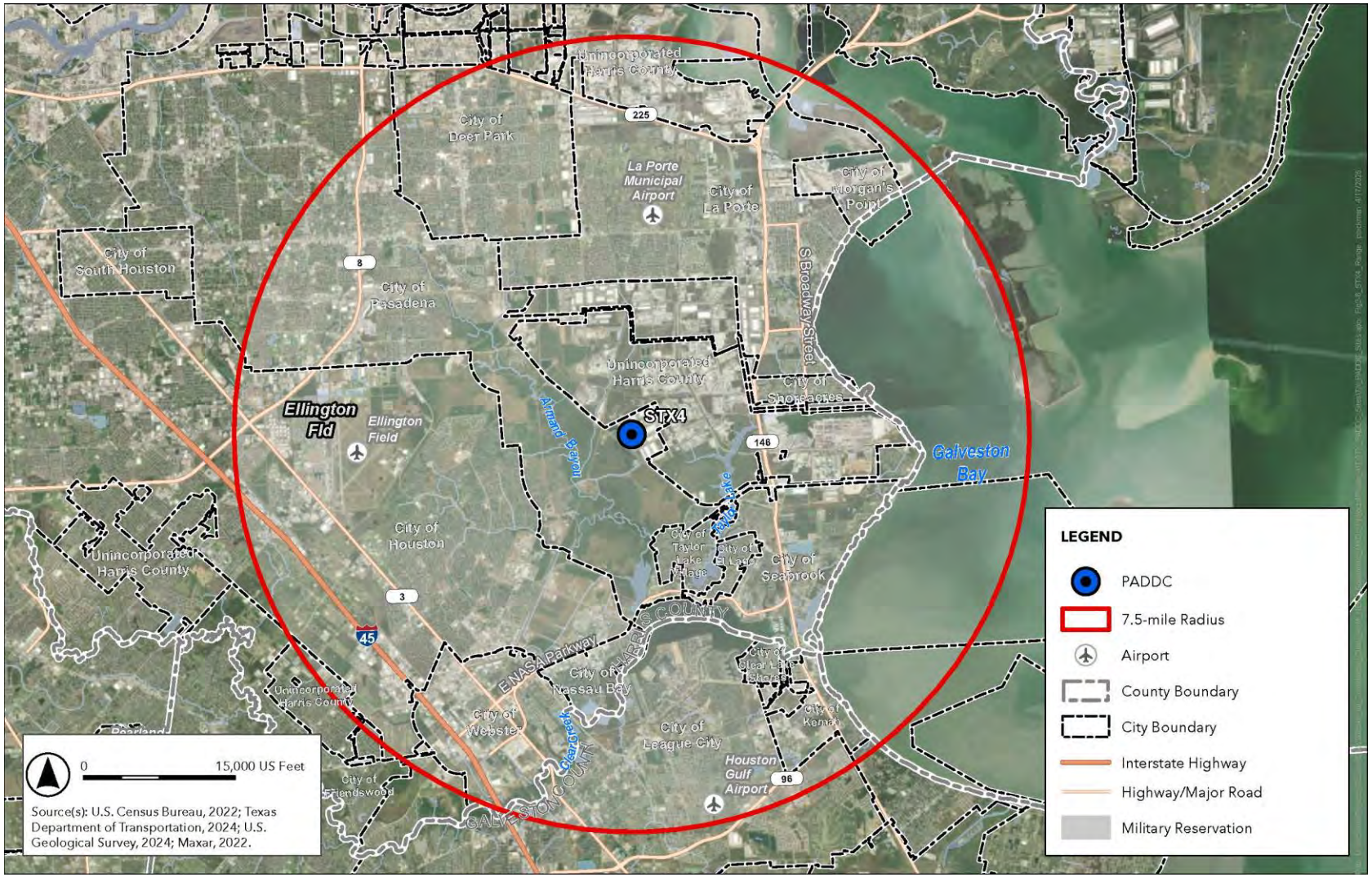
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 5
STX2 Drone Operation Area of Potential Effects



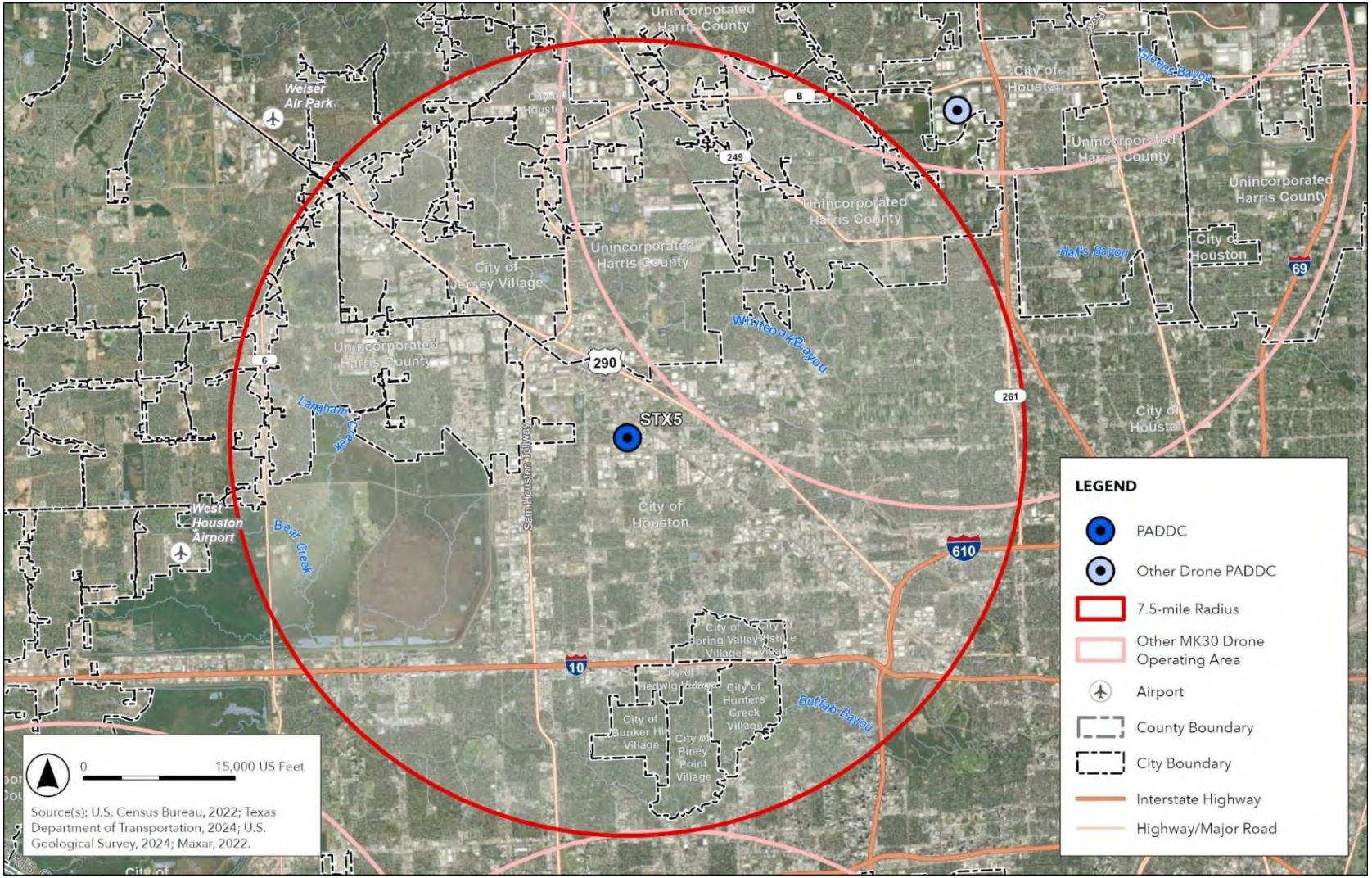
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 6
STX3 Drone Operation Area of Potential Effects



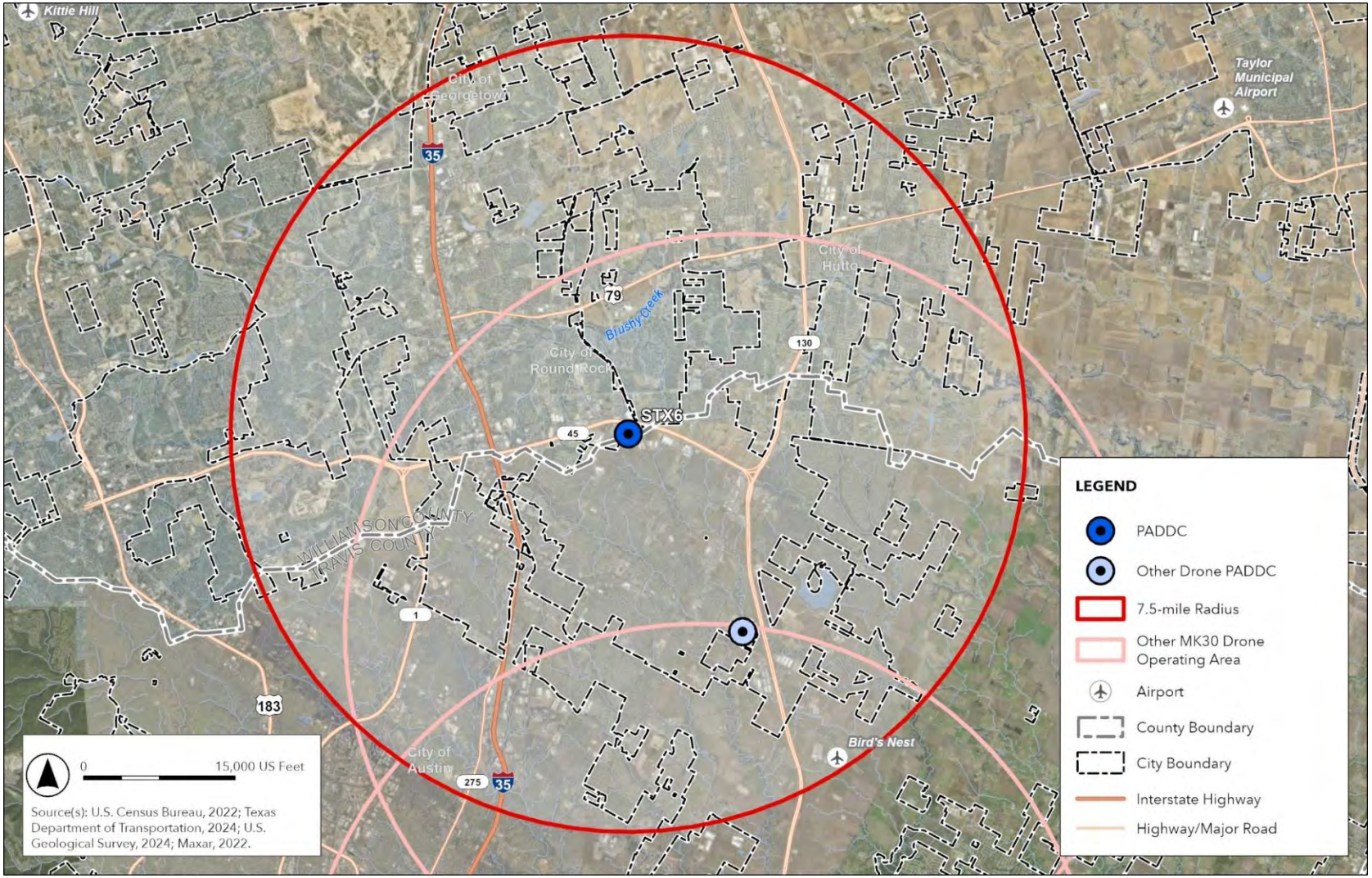
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 7
STX4 Drone Operation Area of Potential Effects



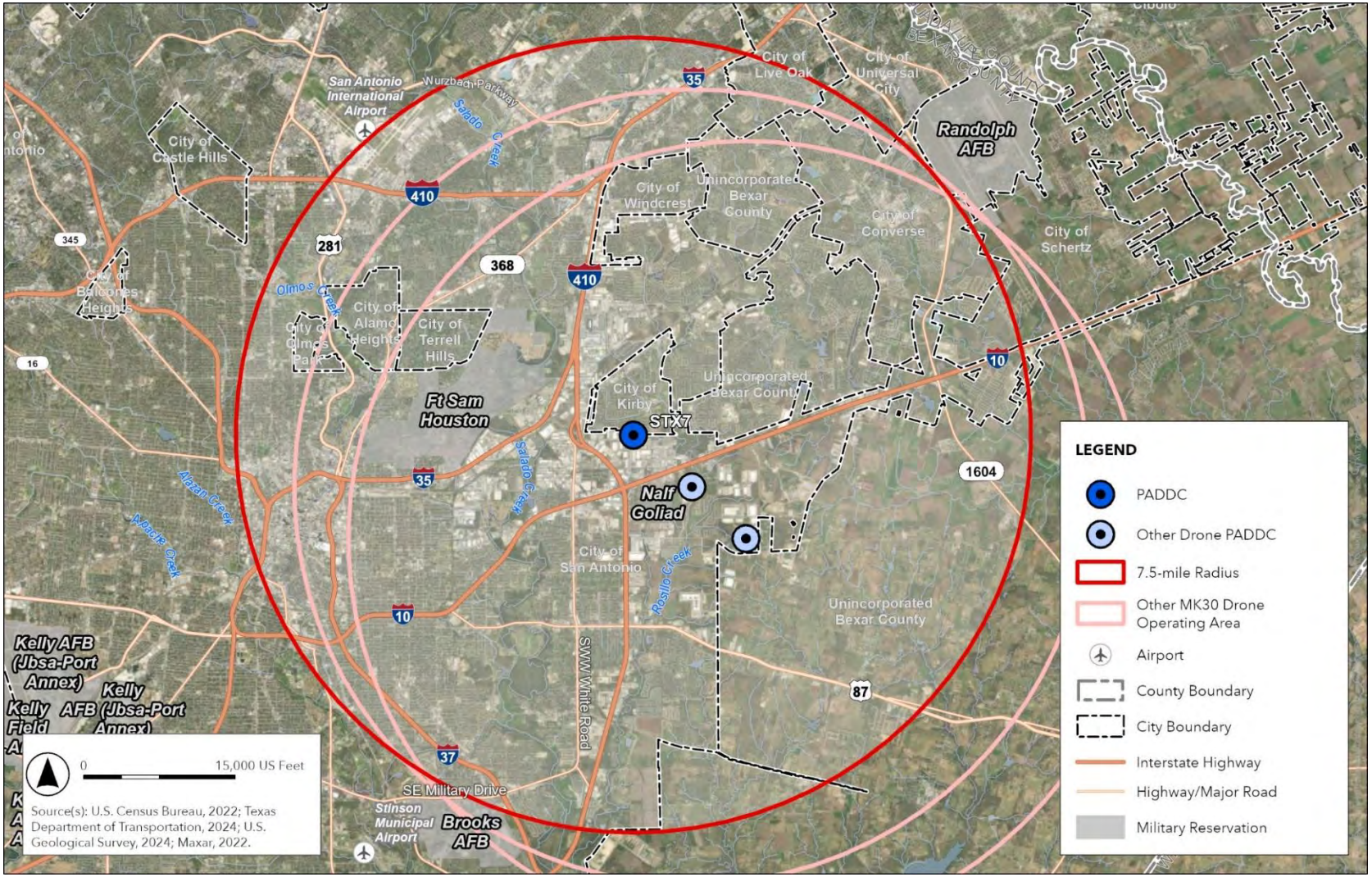
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 8
STX5 Drone Operation Area of Potential Effects



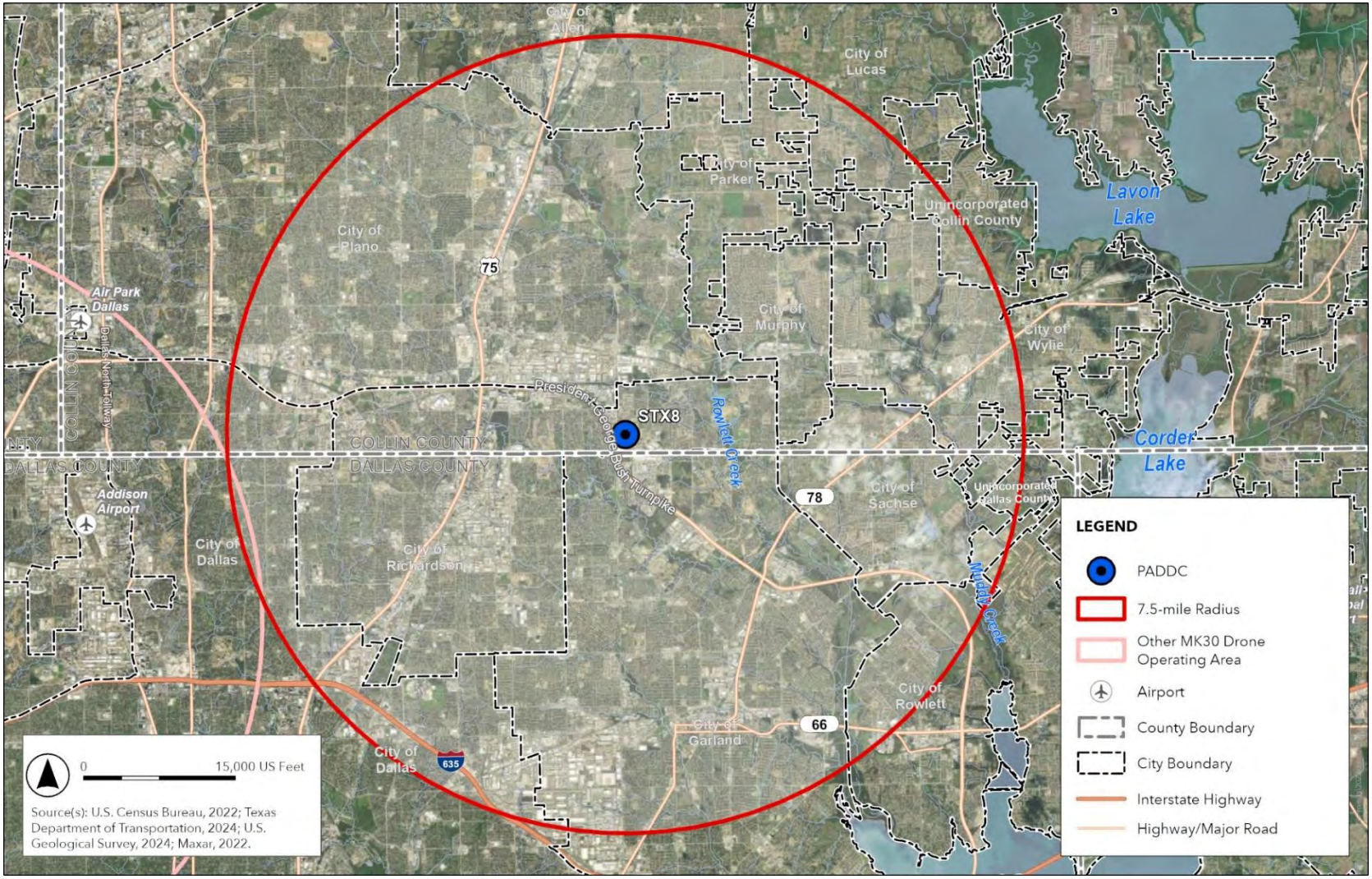
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 9
STX6 Drone Operation Area of Potential Effects



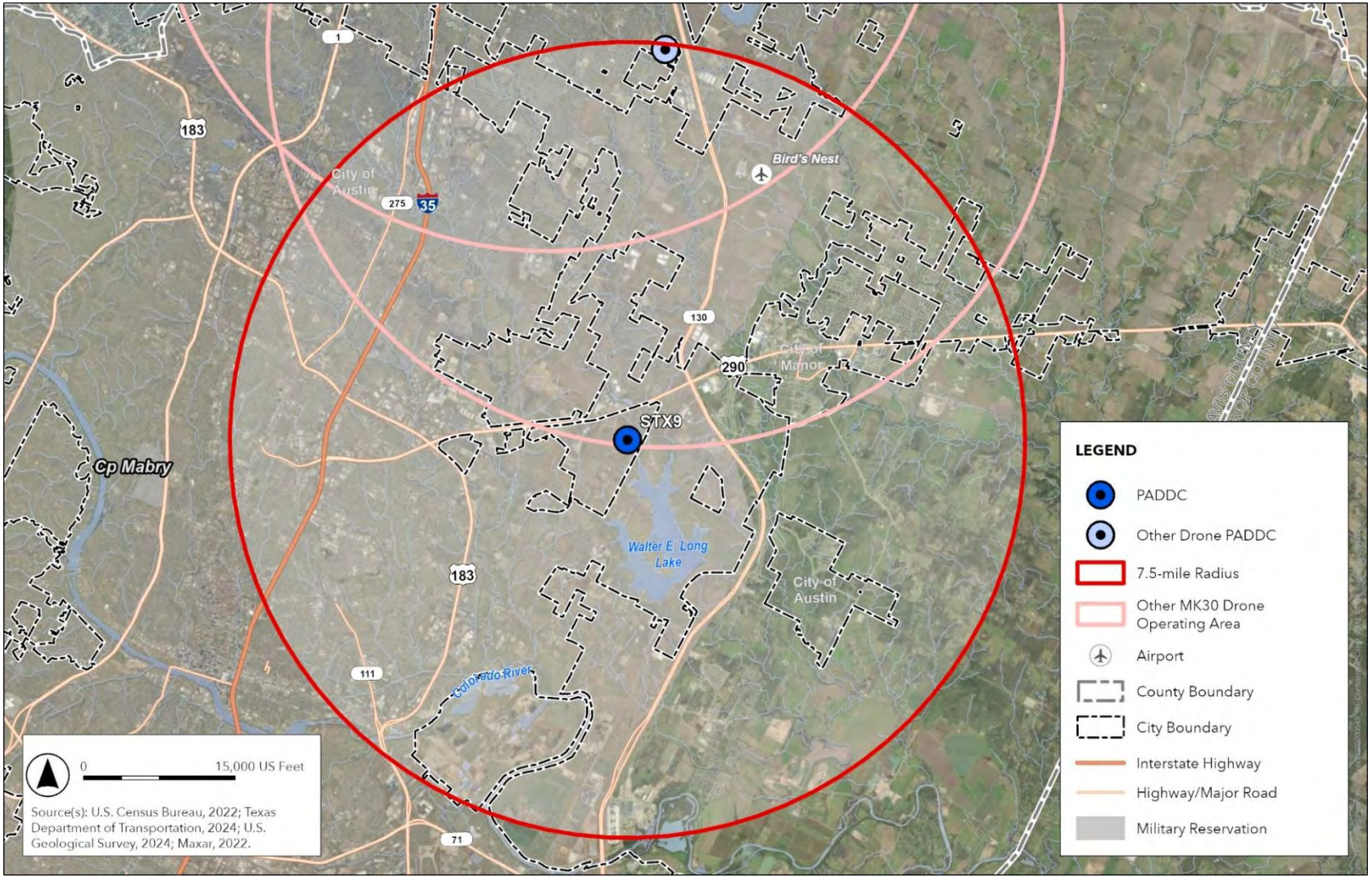
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 10
STX7 Drone Operation Area of Potential Effects



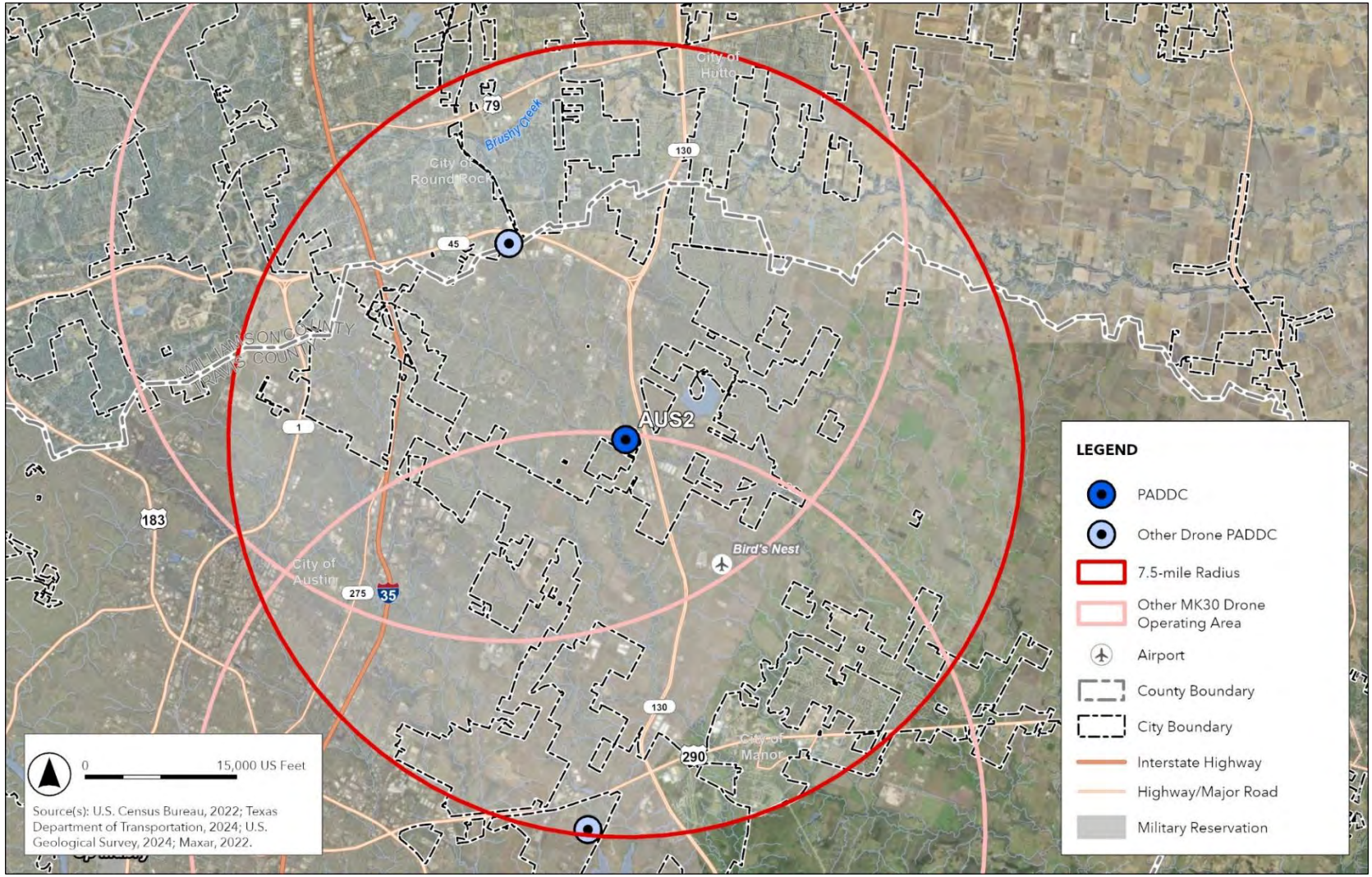
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 11
STX8 Drone Operation Area of Potential Effects



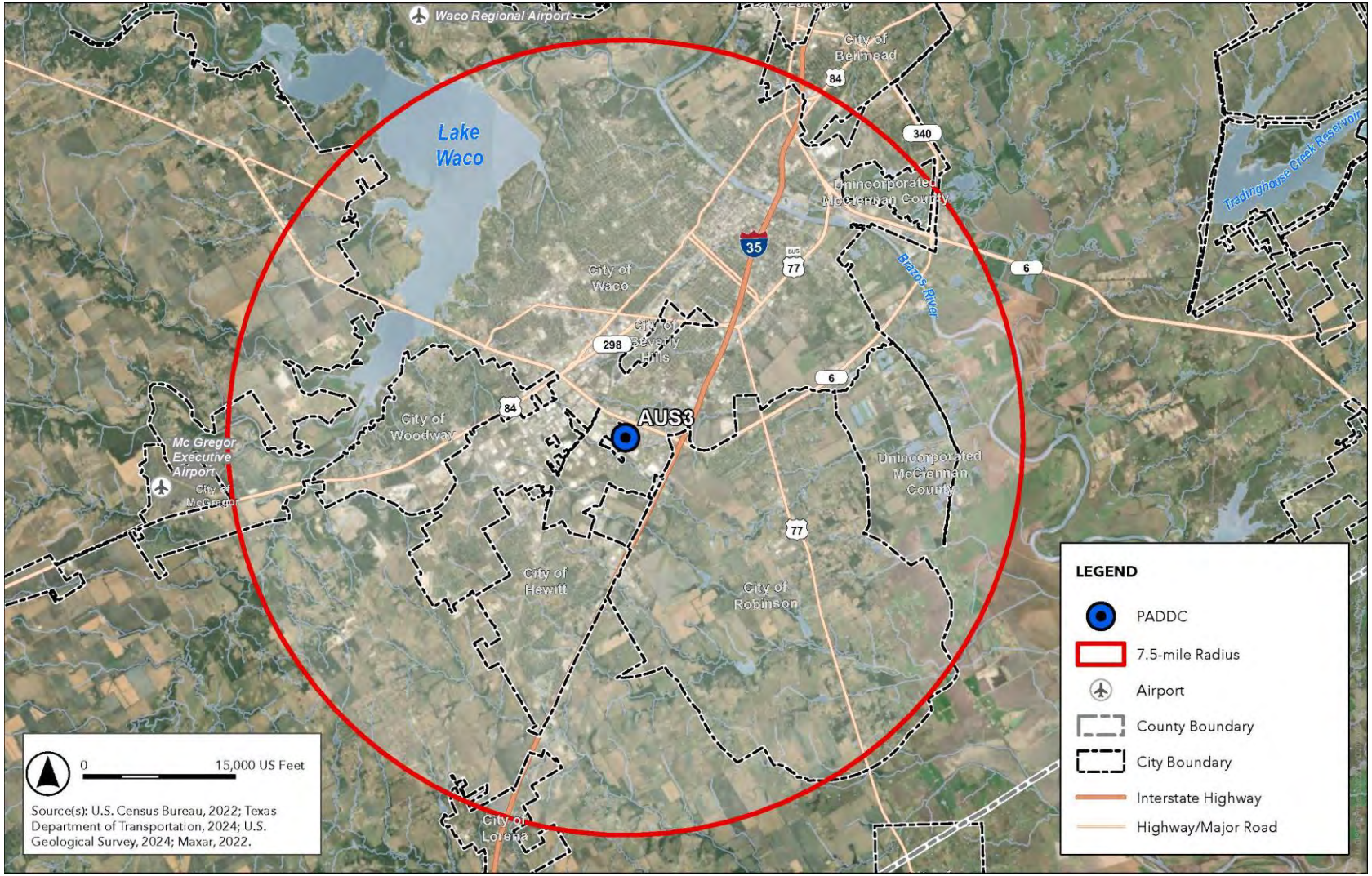
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 12
STX9 Drone Operation Area of Potential Effects



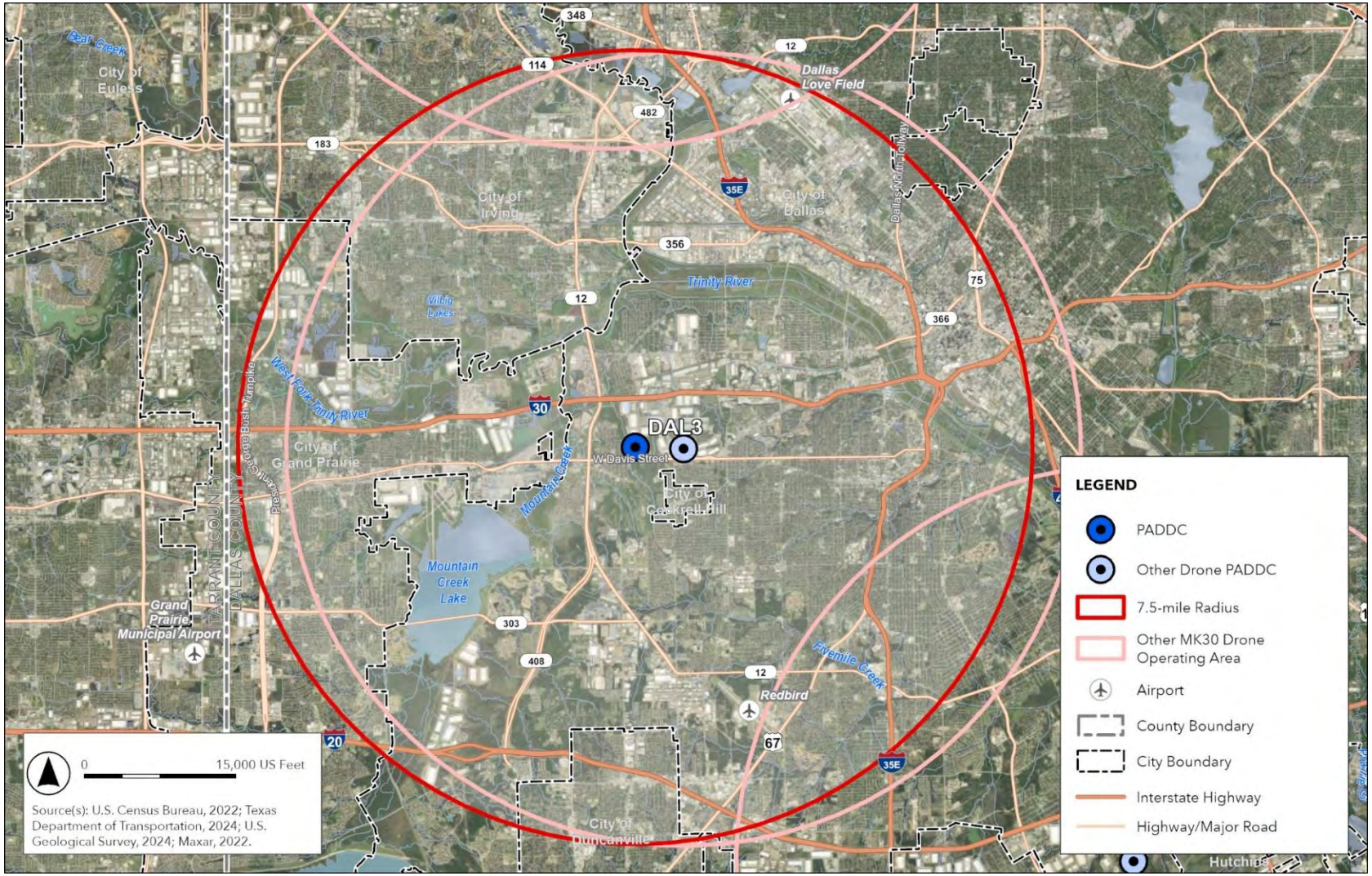
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 13
AUS2 Drone Operation Area of Potential Effects



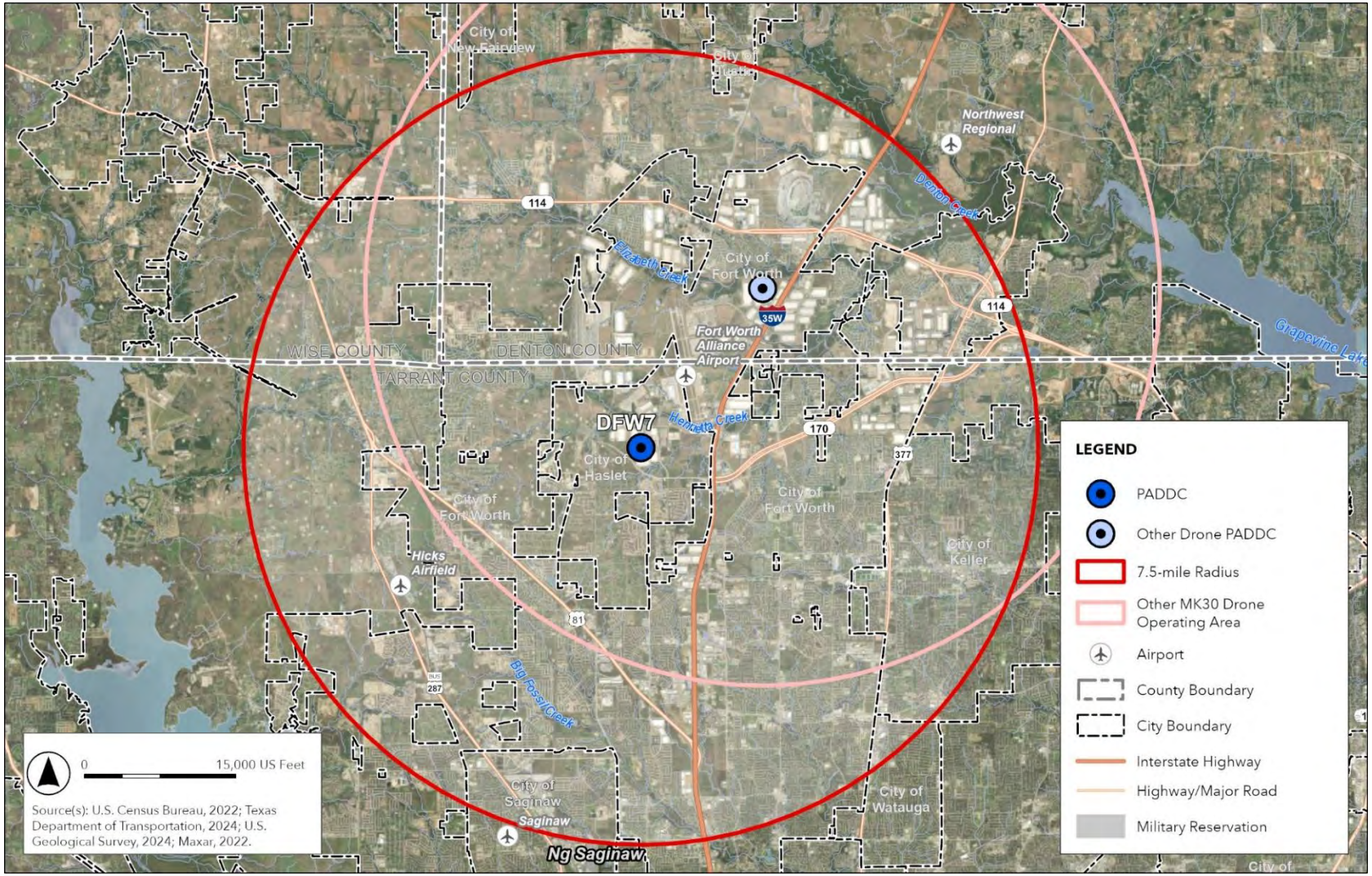
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 14
AUS3 Drone Operation Area of Potential Effects



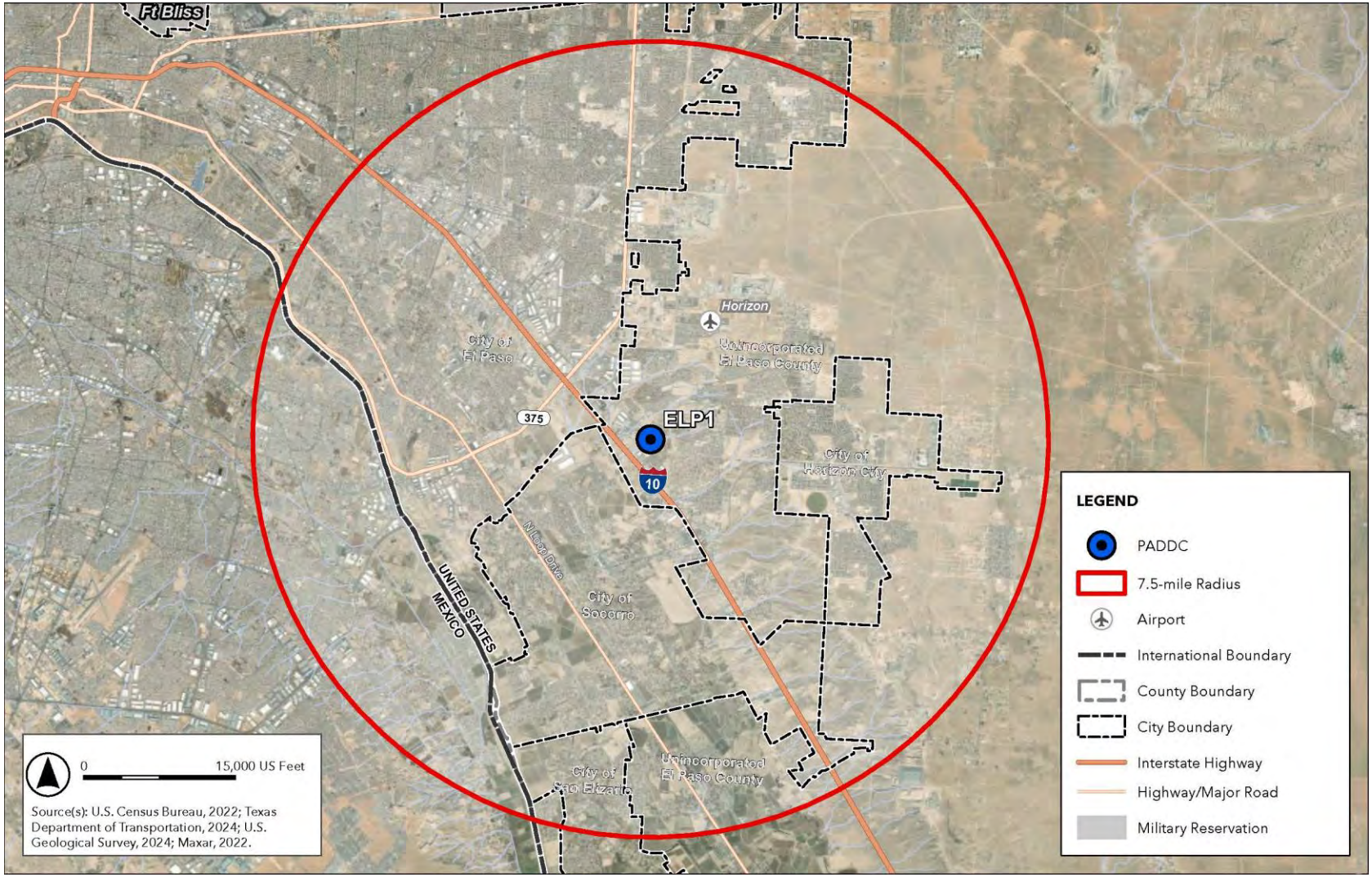
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 15
DAL3 Drone Operation Area of Potential Effects



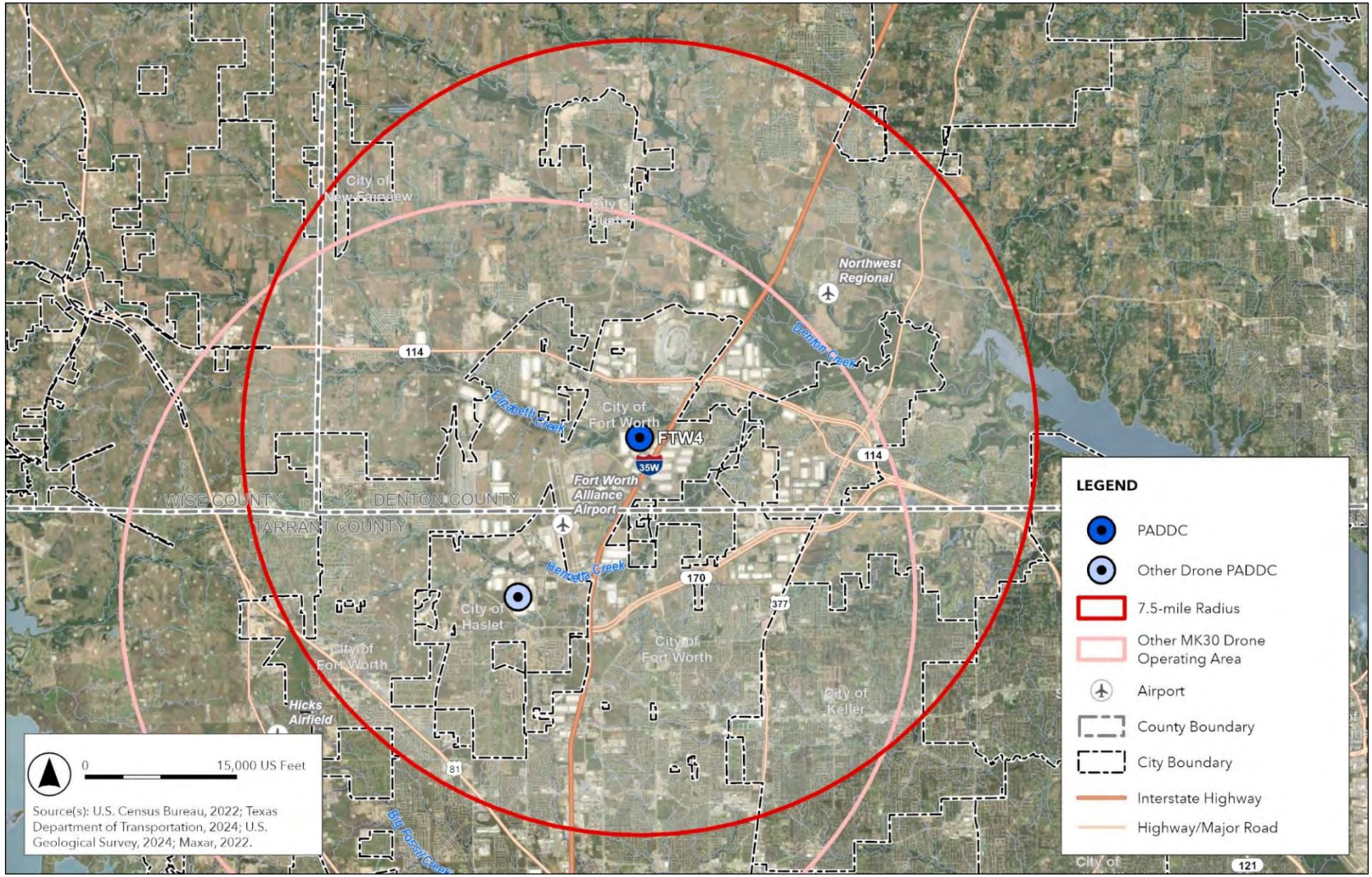
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 16
DFW7 Drone Operation Area of Potential Effects



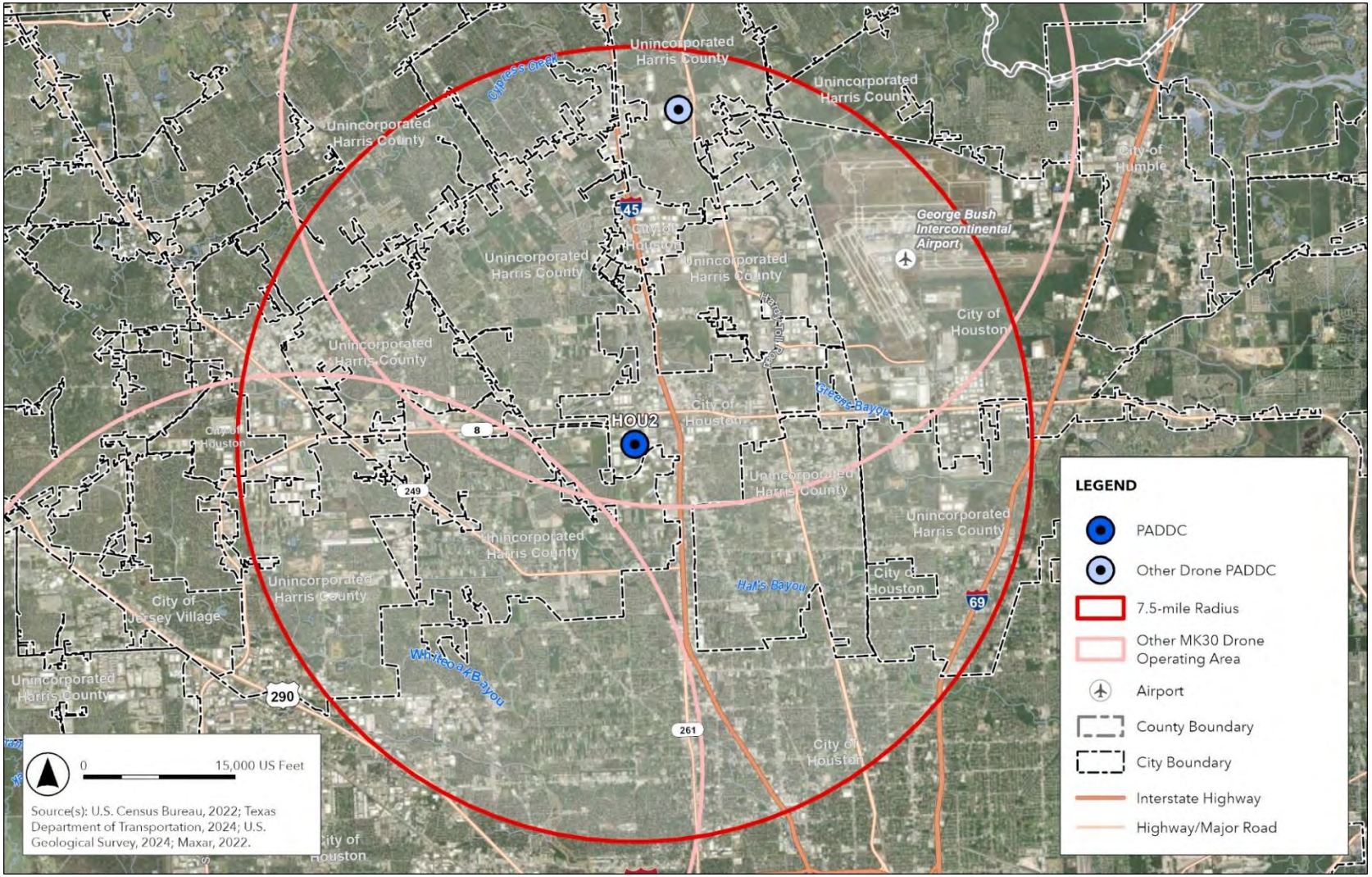
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 17
ELP1 Drone Operation Area of Potential Effects



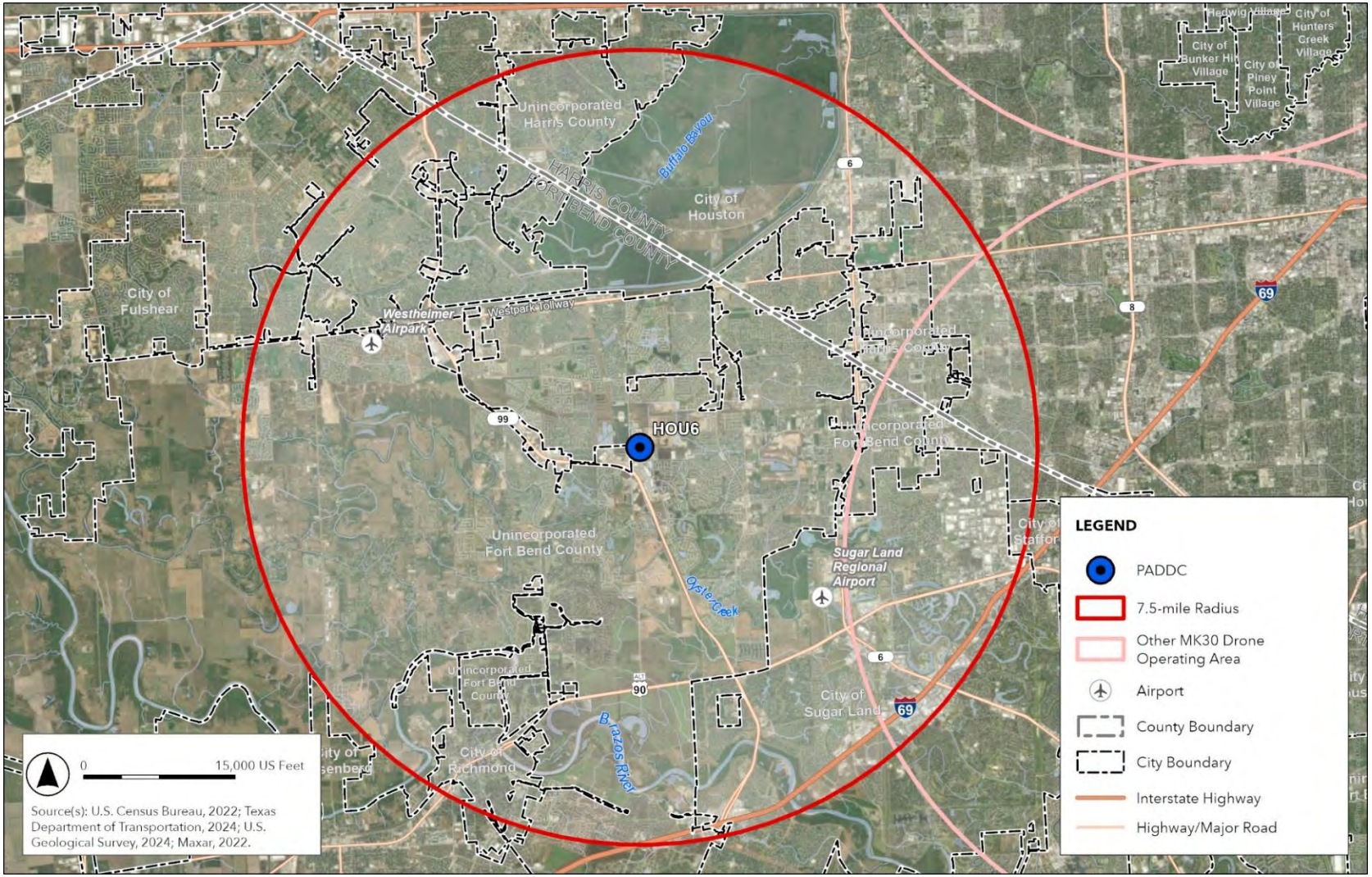
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 18
FTW4 Drone Operation Area of Potential Effects



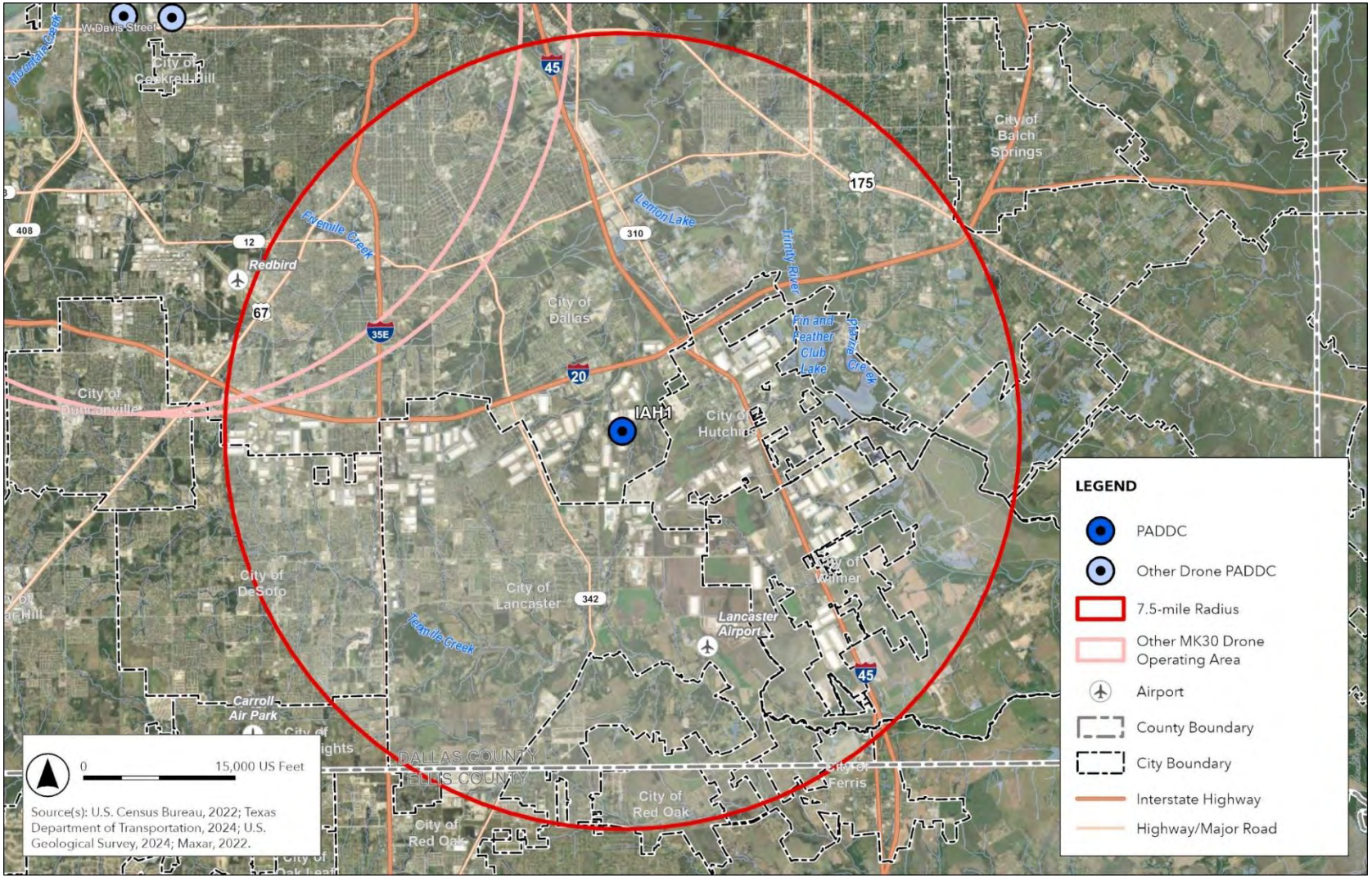
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 19
HOU2 Drone Operation Area of Potential Effects



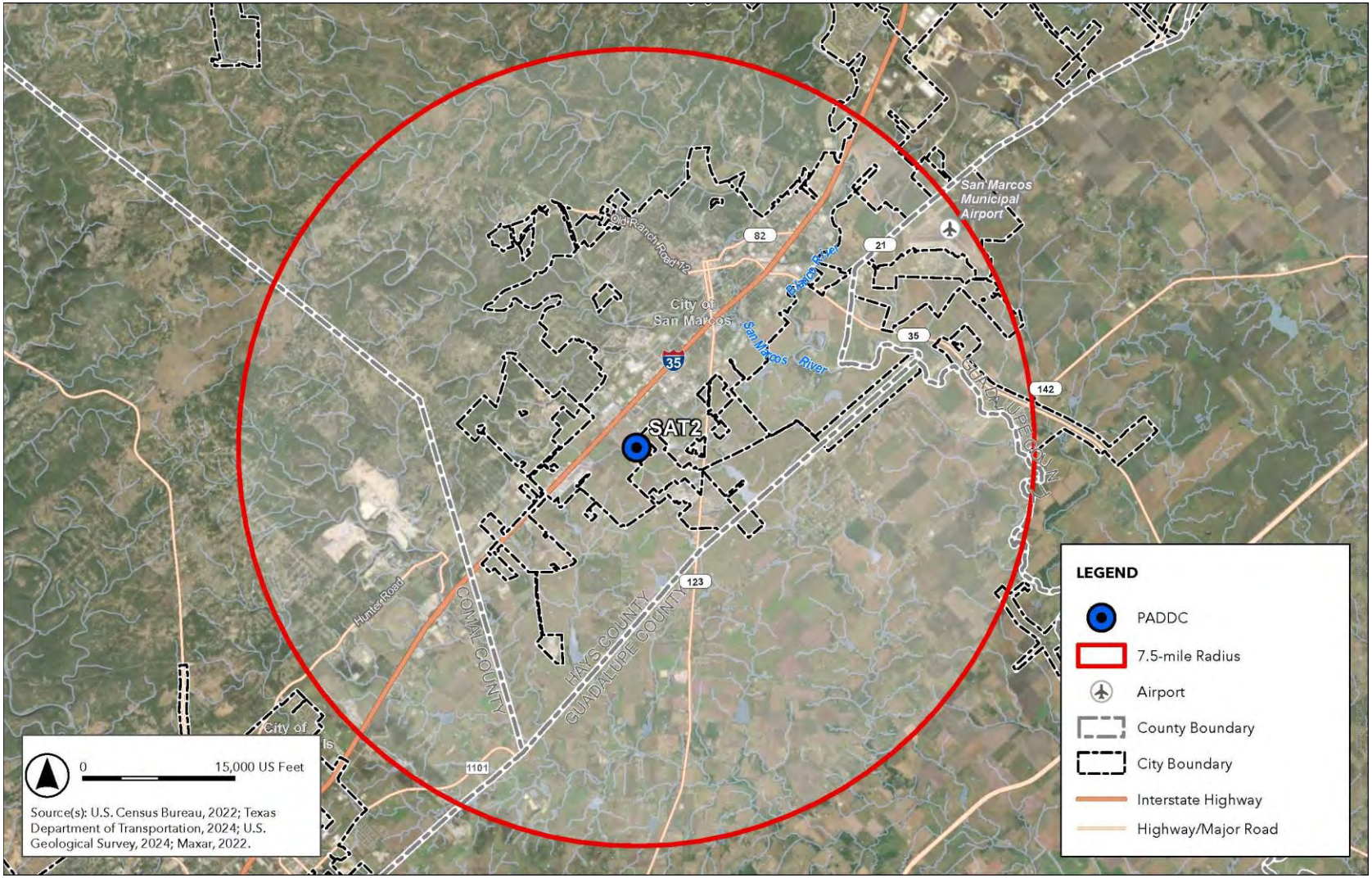
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 20
HOU6 Drone Operation Area of Potential Effects



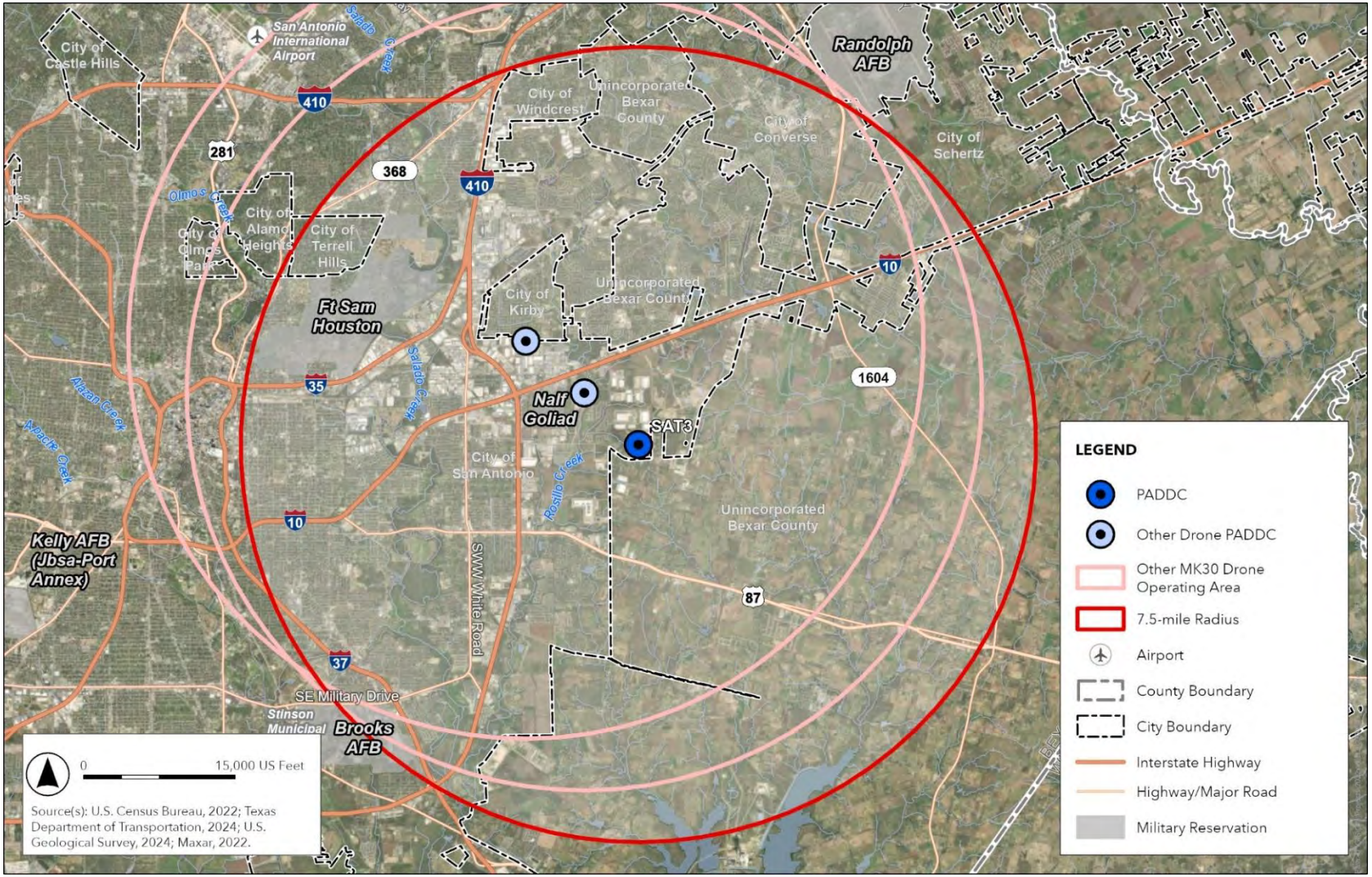
SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 21
IAH1 Drone Operation Area of Potential Effects



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 22
SAT2 Drone Operation Area of Potential Effects



SOURCE: ESA, 2025; US Census Bureau, 2022; Texas DOT, 2024; USGS, 2024; Maxar, 2022.

Figure 23
SAT3 Drone Operation Area of Potential Effects

Attachment B
MK30 Drone Flight Profile

From:	9-FAA-Drone-Environmental (FAA)
To:	ovillanueva@ydsp-nsn.gov
Cc:	Hurst, Christopher A (FAA); DeLaune, Jonathan (FAA); Jones, Jodi A-CTR (FAA); Neal Wolfe; Fitzpatrick, Casey N (FAA)
Subject:	FAA-Amazon Prime Air: Invitation for Government-to-Government Tribal and National Historic Preservation Act (NHPA) Section 106 Consultation(s) for Drone Package Delivery Operations in Texas.
Date:	Tuesday, July 1, 2025 9:45:55 AM
Attachments:	ELP1_Range_with_Ysleta_del_Sur_Pueblo.pdf Ysleta del Sur Pueblo Tribal Land.png

Mr. Villianueva,

As part of our Section 106 consultation process for the proposed Amazon Prime Air Drone Delivery Project in Texas, the Federal Aviation Administration conducted Government to Government consultation and initiated NHPA Section 106 consultation (electronic and hardcopy) with the Ysleta del Sur Pueblo on May 16, 2025, to determine if the Proposed Action would result in any impacts to tribal resources within any of the 22 proposed drone operating areas across Texas..

After the consultation package was transmitted, it was determined that three land parcels that may hold tribal interest are located within one of the proposed drone operating areas (ELP1), as shown in the attached figure. Of particular note, one of the parcels includes the Ysleta Mission.

We apologize for any inconvenience this may have caused, but to ensure a fair and transparent consultation process, we wanted to bring our finding to your attention and offer the opportunity to provide any additional feedback you may have regarding these parcels.

We're very appreciative of the volume of consultation packages your office receives and I can resend you the consultation package is needed.

To be considerate of your time, I would be happy to set up a call to discuss any potential concerns or answer any questions you may have regarding the Proposed Action. My contact information is below.

Thank you,

Chris Hurst

Chris Hurst
REM/CEA/CESCO
Environmental Protection Specialist

AFS-752
General Aviation and Commercial Branch
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service
christopher.a.hurst@FAA.gov
CST

From: 9-FAA-Drone-Environmental (FAA)
Sent: Friday, May 16, 2025 4:30 PM
To: michael.silvas@ydsp-nsn.gov; ovillanueva@ydsp-nsn.gov
Cc: rquezada@ydsp-nsn.gov; Hurst, Christopher A (FAA) <Christopher.A.Hurst@faa.gov>; DeLaune,

Jonathan (FAA) <jonathan.delaune@faa.gov>; Jones, Jodi A-CTR (FAA) <jodi.a-ctr.jones@faa.gov>
Subject: FAA-Amazon Prime Air: Invitation for Government-to-Government Tribal and National Historic Preservation Act (NHPA) Section 106 Consultation(s) for Drone Package Delivery Operations in Texas.

Consultation Package sent via Email and Regular Mail

Attachment – Government-to-Government consultation letter and National Historic Preservation Act (NHPA) Section 106 Consultation Package

Good afternoon,

My name is Chris Hurst and I am an environmental specialist with the Federal Aviation Administration (FAA). The purpose of this email is to initiate formal government-to-government and National Historic Preservation Act (NHPA) Section 106 consultations regarding a proposal by Amazon Prime Air. The FAA is considering whether to authorize expanded commercial Unmanned Aircraft Systems (UAS) operations to deliver goods to customers (***referred to as package delivery***) using unmanned aircraft (***also referred to as drones***) in accordance with 14 Code of Federal Regulations Part 135 (Part 135) in the state of Texas. The FAA is the lead federal agency for the proposed project. Amazon Prime Air is the project proponent. We wish to solicit your views regarding potential effects on tribal interests in the area.

The primary purpose of government-to-government and NHPA Section 106 consultation is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect the Tribes.

Consultation Initiation

With this consultation package (***attached and also transmitted via regular mail***), the FAA is seeking input concerning any Tribal lands or sites of religious or cultural significance that may be affected by the proposed operation. Early identification of Tribal concerns, or known properties of traditional, religious, and cultural importance, will allow the FAA to consider ways to avoid or minimize potential impacts to Tribal resources. We are available to discuss the details of the proposed project with you.

Proposed Activity

Amazon Prime Air is working with the FAA to prepare an environmental assessment to assess the potential environmental impacts of the FAA's actions of authorizing commercial package delivery operations using drones in the state of Texas. Generally, these approvals are associated with issuing a new or amended Part 135 air carrier Operations Specifications as the operative approval. The FAA has determined that its proposed action,

which would encompass all FAA approvals necessary to enable expanded operations, is an ***undertaking*** as defined under the regulations implementing Section 106 of the NHPA (36 CFR § 800.16(y)). The FAA intends to complete consultation for Section 106 of the NHPA concurrently with the NEPA process.

Confidentiality

We understand that you may have concerns about the confidentiality of information on areas or resources of traditional, religious, and cultural importance to your Tribe. We are available to discuss these concerns and develop procedures to ensure the confidentiality of such information is maintained.

FAA Contact Information

Your timely response over the next 30 days will greatly assist us in incorporating your concerns into our environmental review of the operation. We respectfully request your response in the event that the Ysleta del Sur Pueblo would like to consult with the FAA in a government-to-government relationship about this proposal.

Please contact FAA via email at 9-faa-drone-environmental@faa.gov with any questions or concerns.

Very respectfully,

Chris Hurst
REM/CEA/CESCO
Environmental Protection Specialist

AFS-752
General Aviation and Commercial Branch
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service
christopher.a.hurst@FAA.gov

CST

Attachment C
Proposed Areas of Potential Effects

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P.O. Box 948 • Tahlequah, OK 74465-0948
918-453-5000 • www.cherokee.org

Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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June 12, 2025

Christopher Hurst
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Re: Drone Package Delivery Operations in Texas

Dear Christopher Hurst:

The Cherokee Nation (Nation) is in receipt of your correspondence about **Drone Package Delivery Operations in Texas**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources for the following proposed projects in Dallas County: STX2, STX3, STX8, DAL3, and IAH1. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Federal Aviation Administration (FAA) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the FAA conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

Attachment D
Listed and Eligible NHRP Resources

From:	Luke Morris
To:	Neal Wolfe
Subject:	RE: FAA-Amazon Prime Air: Invitation for Government-to-Government Tribal and National Historic Preservation Act (NHPA) Section 106 Consultation(s) for Drone Package Delivery Operations in Texas.
Date:	Thursday, May 22, 2025 9:27:24 AM
Attachments:	image005.png image006.png

Neal,

Dr. Andrea Hunter, Osage THPO/Director of ONHPO, confirmed The Osage Nation does not want consultation for this program in Texas. However, if other states within Osage Ancestral Lands pursue the program, ONHPO would like to be consulted.

The Osage Nation appreciates your consultation and time on this matter.

Respectfully,

Luke Morris
Archaeologist, MA
Osage Nation Historic Preservation Office
627 Grandview Avenue,
Pawhuska, OK 74056

All project notifications and reports must be emailed to s106@osagenation-nsn.gov

Include the Lead Agency, Project Name, and Project Number on the subject line.

From: Luke Morris
Sent: Wednesday, May 21, 2025 1:21 PM
To: 'NWolfe@esassoc.com' <NWolfe@esassoc.com>
Cc: Courtney Neff <cneff@osagenation-nsn.gov>; 'judith.walker@faa.gov' <judith.walker@faa.gov>
Subject: FAA-Amazon Prime Air: Invitation for Government-to-Government Tribal and National Historic Preservation Act (NHPA) Section 106 Consultation(s) for Drone Package Delivery Operations in Texas.

Neal,

Can you confirm where you procured Kathleen Kelley's (ONHPO Archaeologist) email address? She is not assigned to FAA for Section 106 consultation, nor has ever been. I am responsible for Section 106 communications between FAA and ONHPO, and facilitate responses based on the preference of Osage THPO, Dr. Andrea Hunter.

Any clarification for where you got your email contacts to consult ONHPO would be greatly appreciated, as the current list is incorrect. FAA should already have this consultation information. Copied, Judith Walker, FAA FPO, should be able to provide you with the Section 106 consultation protocol for The Osage Nation.

As he is the leader of a sovereign nation, please refrain from emailing Principal Chief Geoffrey Standing Bear about Section 106 consultation. I can assure you ONHPO will reciprocate the gesture and not contact the President of The United States of America, when responding to FAA consultations. The proposed etiquette would be benefit both nations.

Thank you for consulting The Osage Nation on this matter.

Respectfully,

Luke Morris
Archaeologist, MA
Osage Nation Historic Preservation Office
627 Grandview Avenue,
Pawhuska, OK 74056

All project notifications and reports must be emailed to s106@osagenation-nsn.gov

Include the Lead Agency, Project Name, and Project Number on the subject line.

Attachment E
Consulted Parties

From:	Hurst, Christopher A (FAA)
To:	Neal Wolfe
Cc:	Fitzpatrick, Jim; Lares, Sheri (FAA); DeLaune, Jonathan (FAA)
Subject:	FW: Response to FAA-Amazon Prime Air Multiple Counties, Texas
Date:	Wednesday, May 28, 2025 11:48:49 AM

Chris Hurst
REM/CEA/CESCO
Environmental Protection Specialist

AFS-752
General Aviation and Commercial Branch
Emerging Technologies Division
Office of Safety Standards, Flight Standards Service
christopher.a.hurst@FAA.gov
CST

From: Julia Pebeahsy <Julia.Pebeahsy@quapawnation.com>
Sent: Friday, May 23, 2025 10:47 AM
To: 9-FAA-Drone-Environmental (FAA) <9-FAA-Drone-Environmental@faa.gov>; Hurst, Christopher A (FAA) <Christopher.A.Hurst@faa.gov>
Cc: section 106 <section.106@quapawnation.com>
Subject: Response to FAA-Amazon Prime Air Multiple Counties, Texas

Friday, May 23, 2025

Attn: Derek Hufty, Manager,
General Aviation and Commercial Branch (AFS-750)
U.S Department of Transportation
Federal Aviation Administration
800 Independence Ave., SW.
Washington, DC 20591

Re: FAA-Amazon Prime Air Multiple Counties, Texas

Dear Derek Hufty,
The Quapaw Nation Historic Preservation Program (QNHPP) has received and reviewed the information you have provided. Based upon the information you provided we believe that the FAA-Amazon Prime Air Multiple Counties, Texas will have no effect on known properties of

cultural or sacred significance to the Quapaw Nation.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Quapaw Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources, or human remains protected under the NHPA, NEPA, or the Native American Graves Protection and Repatriation Act. If, however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and that you contact the Quapaw Nation Historic Preservation Office.

Should you have any questions or need any additional information, please feel free to contact Julia Pebeahsy at Julia.pebeahsy@quapawnation.com, please copy section106@quapawnation.com to ensure additional information requests are reviewed in a timely manner. Thank you for consulting with the Quapaw Nation on this matter.

Sincerely,

Julia Pebeahsy

On behalf of
-Ms. Billie Burtrum
Preservation Officer/ QNHPP Director
Quapaw Nation
P.O. Box 765
Quapaw, OK 74363
(w) 918-238-3100
(f) 918-674-2456

Appendix E

Technical Noise Report and Noise Contour Figures

E-1 Technical Noise Report

Federal Aviation Administration

Memorandum

Date: June 4, 2025

To: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch (AFS-752)

From: Dave Senzig, Manager (Acting), Noise Division, Office of Environment and Energy (AEE-100)

DAVID ALAN SENZIG
2025.06.04 14:13:14 -04'00'

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 Unmanned Aircraft (UA) from Multiple Texas Metropolitan (Metro) Areas

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard noise modeling methodology to be used for Amazon Prime Air (Amazon) operations using the MK30 unmanned aircraft (UA) from multiple metropolitan (metro) areas in Texas. This request is in support of an Environmental Assessment (EA) for Amazon to provide package delivery services as a 14 CFR Part 135 operator in the five Texas metro areas of Austin, Dallas-Fort Worth, El Paso, Houston, and San Antonio.

The Proposed Action is for Amazon to use the MK30 UA to conduct package delivery operations under its existing Part 135 air carrier certificate from 22 Prime Air Drone Delivery Centers (PADCCs) located in the five Texas metro areas detailed above to potential delivery locations such as residential homes within proposed associated operating areas. Typical operations of the MK30 UA will consist of departure from a launch/takeoff pad at the PADCC followed by a vertical climb to a typical en route altitude of 180 to 377 feet above ground level (AGL). The UA then transitions from vertical to horizontal wing borne flight (WBF) for transit to a delivery location. Approaching the delivery location, the UA will transition from horizontal WBF to vertical flight, and then descend vertically over the delivery point. At 13 feet AGL, the UA drops the package at the delivery point, and ascends vertically back to en route altitude. Once back at en route altitude, the UA again transitions from vertical to horizontal WBF for transit back to its originating PADDC. When the UA arrives at the PADDC, the UA will transition from horizontal WBF to vertical flight and descend vertically to its assigned landing pad. After landing, the UA is serviced and prepared for the next delivery.

Under the scope of the Proposed Action Amazon projects conducting a maximum of 365,000 annual deliveries during daytime hours, with no nighttime flights (10 PM – 7 AM), with 1,000 total deliveries on an average annual daily (AAD) basis at each of the 22 PADCC's and associated operating areas. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations with a minimum number of 0.1 deliveries per day or less and maximum of 4.0 per day at any one location within the proposed operating area on an AAD basis.

As the FAA does not currently have a standard approved noise model for assessing UA, and in accordance with FAA Order 1050.1F, all non-standard noise analysis in support of the noise impact analysis for the National Environmental Policy Act (NEPA) must be approved by AEE. This letter serves as AEE's response to the method developed in ESA Report No. 202200549.04 for the "Estimated Noise Levels for Amazon Prime Air MK30 Drone Technical Noise Report" dated April 2025.

The proposed methodology appears to be adequate for this analysis; therefore, AEE concurs with the methodology proposed for this project. Please understand that this approval is limited to this particular Environmental Review, location, vehicle, and circumstances. Any additional projects using this or other methodologies or variations in the vehicle will require separate approval.

Federal Aviation Administration

Memorandum

Date: May 19, 2025

To: Dave Senzig, Manager (Acting), Noise Division, Office of Environment and Energy (AEE-100)

From: Chris Hurst, Flight Standards (AFS), General Aviation and Commercial Branch, AFS-752

CHRISTOPHER A HURST Digitally signed by CHRISTOPHER A HURST Date: 2025.05.19 12:22:09 -05'00'

Subject: Environmental Assessment (EA) Noise Methodology Approval Request for MK-30 Amazon Prime Air Operations in Multiple Texas Metropolitan (Metro) Areas

AFS requests AEE approval of the noise methodology to be used for the Environmental Assessment (EA) for Amazon Prime Air (Amazon) to expand its package delivery services as a 14 CFR Part 135 operator using the Amazon MK30 unmanned aircraft (UA) in 5(five) Texas metro areas listed below:

- Austin, TX
- Dallas-Fort Worth, TX
- El Paso, TX
- Houston, TX
- San Antonio, TX

As required under the National Environmental Policy Act (NEPA), the FAA must consider the potential for environmental impacts in informing the agency's decision to approve Federal actions, including the potential for noise impacts as detailed in FAA Order 1050.1F.

As the FAA does not currently have a standard approved noise model for UA, this letter serves as a request for written approval from AEE to use the methodology proposed in the following sections to support the noise analysis for the EA.

Description of Aircraft and Proposed Operations

AFS is evaluating Amazon's proposal to conduct package delivery operations from 22 Prime Air Drone Delivery Centers (PADCCs) located in five metro areas throughout Texas and associated operating areas under its existing Part 135 air carrier certificate and related operating authorizations using the MK30 UA. Amazon is proposing to perform package delivery operations within the proposed five metro areas to transport packages to delivery sites including residential homes.

The MK30 UA has six (6) propulsors allowing it to take-off and land vertically and transition to wing borne flight (WBF). Its airframe is composed of staggered tandem wings for stable WBF. The drone weighs 77.9 lbs. (35.5 kg) and has a maximum takeoff weight of 83.2 lbs. (37.8 kg), which includes a maximum payload of 5 lbs. (3 kg). It has a maximum operating range of 7.5 mi (12 km). It is a hybrid multicopter fixed-wing UA that uses electric power from rechargeable lithium- ion batteries and can fly up to 400 ft (122 m) above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during WBF. It is launched vertically using powered lift and converts to using wing lift during en route flight. A typical flight profile can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, Amazon's MK30 UA would rise to an altitude of less than 400 ft (122 m) AGL and follow a predefined route to its delivery site.

Aircraft would typically fly en route at between approximately 180 to 377 ft (55 to 115 m) AGL, except when descending to drop a package. Packages would be carried internally in the UA's fuselage. When making a delivery, the UA descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft (4 m) AGL.

Amazon's UA would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage. After the package is dropped, the MK30 UA climbs vertically and follows its predefined route back to the PADDC at its assigned altitude.

Amazon is seeking to amend its current Operation Specifications (OpSpec) and other Federal Aviation Administration (FAA) authorizations needed to integrate the MK30 and expand drone commercial package delivery operations.

Prime Air anticipates operating up to 1,000 delivery flights per operating day, up to 10 hours per day, and 7 days per week, from each of the 22 PADDCs. These operational levels would result in a projected total of approximately 365 operating days and 365,000 delivery operations per year for each PADDC, based on the scope of the Proposed Action. The operations would occur between 7 A.M. and 10 P. M. and are anticipated to be distributed evenly across each operating area. The MK30's proposed operating range is 7.5 mi from each PADDC, with a potential operating area of 3,828 sq mi. The drone departure and arrival paths from and to each PADDC would generally correspond to the geographical location of the package delivery address. Based on those overall levels Amazon expects deliveries to be distributed among delivery locations throughout the operating area with a minimum number of 0.1 deliveries per day or less and maximum of 4.0 per day at any one location on an AAD basis.

Noise Analysis Methodology

AFS requests to use the noise analysis methodology described in ESA Report No. 202200549.04 for the "Estimated Noise Levels for Amazon Prime Air MK30 Drone Technical Noise Report" dated April 2025.

ESTIMATED NOISE LEVELS FOR AMAZON PRIME AIR MK30 DRONE

Technical Noise Report

April 2025

ESTIMATED NOISE LEVELS FOR AMAZON PRIME AIR MK30 DRONE

Technical Noise Report

April 2025

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1 Introduction

This document presents the methodology and estimation of noise exposure of Amazon Prime Air (Prime Air) package delivery operations under 14 CFR Part 135. Prime Air is proposing to conduct package delivery operations with the MK30 drone at selected distribution hubs (the Prime Air Drone Delivery Center, or PADDC).

The MK30 is an electric powered drone that uses a vertical take-off and landing (VTOL) then transitions to fixed-wing flight using wing lift during en route flight. The drone systems include hardware and software designed for safety and efficiency. The airframe is composed of staggered wings, the propulsion system includes a rechargeable lithium-ion battery, and six (6) motors that include propellers designed for noise reduction. The package delivery system contains the package in a two-door interior receptacle, and a camera and avionics system that has redundancy for critical systems. The drone weighs approximately 78 lbs. and has a maximum takeoff weight of 83.2 lbs., which includes a maximum payload of 5 lbs. It has a maximum operating range of 7.5 mi and can fly up to 400 ft above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during horizontal flight. An image of the MK30 drone is shown in **Figure 1**.

The MK30 operational flight profiles can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, the MK30 would ascend to an altitude of less than 400 ft AGL and follow a predefined route to its delivery site.[1] The MK30 would typically fly en route at between approximately 180 to 377 ft AGL, except when descending to drop a package. Packages would be carried internally in the drone's fuselage. When making a delivery, the drone descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft AGL. Prime Air's drone would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery phase.[2] After the package is dropped, the MK30 drone climbs vertically and follows its predefined route back to the PADDC at its assigned altitude.

This document outlines the methodology and estimation of noise exposure expected with the proposed use of Prime Air's drone package delivery operations.[3] The methods presented below are suitable for the evaluation of Federal actions in compliance with the National Environmental Policy Act (NEPA) and other applicable environmental regulations or federal review standards at the discretion and approval of the FAA. In particular, this report is intended to function as a nonstandard equivalent methodology under FAA Order 1050.1F, and therefore requires prior written consent from the FAA's Office of Environment and Energy (AEE) for each project seeking a NEPA determination.[4] The results of the noise analysis are presented in terms of the annual Day-Night Average Sound Level (DNL), considering varying levels of operations for areas at ground level below each flight phase.

[1] Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

[2] The MK30 vehicle is built with multiple redundant safety features and "detect and avoid" technology. The drone is designed to handle unexpected situations; it is independently safe.

[3] Environmental Assessment (EA) Noise Methodology Approval Request for Amazon Prime Air Commercial Package Delivery Operations with the MK30 Unmanned Aircraft (UA) from Kansas City, Missouri, May 2025. (See Attachment A).

[4] See FAA Order 1050.1F, July 16, 2015,
Appendix B, Section B-1.2, for discussion on the use of "equivalent methodology", available online at
https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1050_1F.pdf#page=113

Figure 1. Amazon Prime Air MK30 Drone

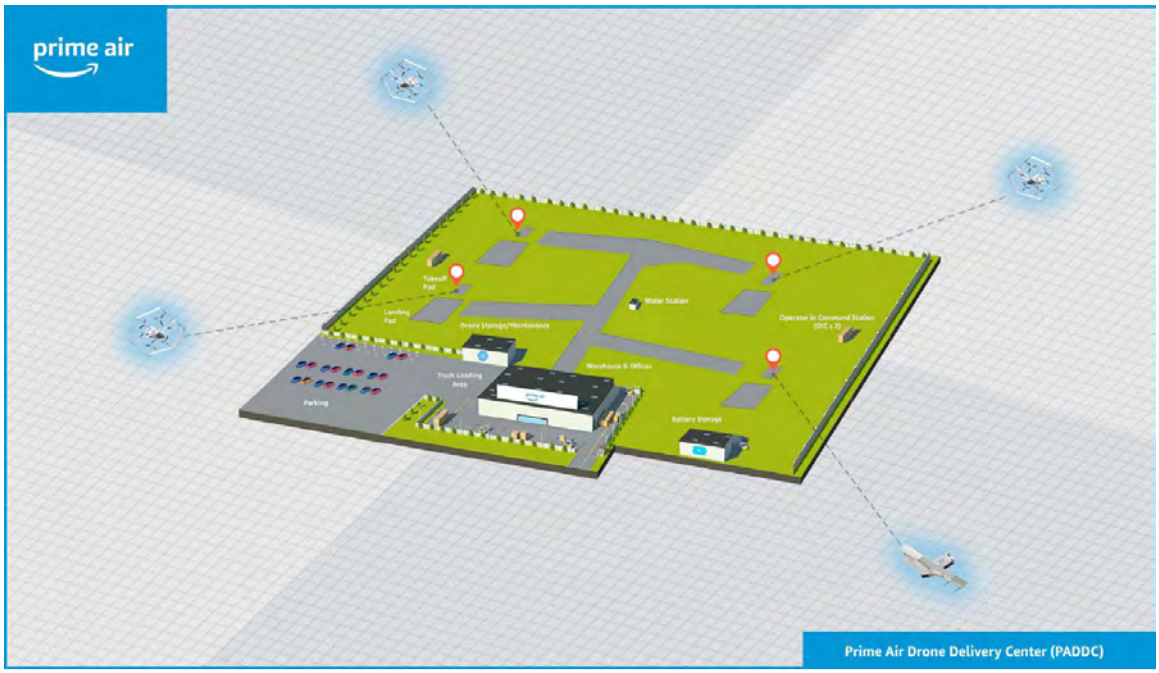
Source: Amazon Prime Air, 2023.

2 Drone Delivery Operations

The PADDC and its associated flight routes are determined by Prime Air's business and operational needs. Takeoff pads at the PADDC are four meters by four meters. Landing pads are eight meters by eight meters. Both pads are contained within a launch area approximately 35 meters by 45 meters. A diagram of a representative PADDC layout is presented in **Figure 2**.

The MK30 drone is capable of vertical ascent and descent, hovering, and flying upright with forward-facing propellers for en route travel. Airspeeds during normal en route flight are expected to be approximately 58.3 knots. A typical flight will commence with a vertical ascent from the launch pad to the transition altitude of approximately 115 feet, from which it will continue a forward-facing climb to an outbound en route altitude between 180 and 279 feet AGL. The drone then maintains altitude and follows a predetermined route, traveling at 58.3 knots toward the designated delivery point. Prior to arrival at the delivery point, the drone will begin its descent down to a transition altitude of 140 feet and decelerate to zero-speed at which time it will arrive at the delivery point. The drone then begins a vertical descent to 13 feet AGL at which time the package is released. The drone will ascend back to a transition altitude of 197 feet, begin the outbound transition and climb phase to 345 feet, while accelerating to 58.3 knots until it reaches the inbound en route altitude between 279 and 377 feet along the predetermined route back to the PADDC. Prior to arriving at the PADDC, the drone will descend to the transition altitude of 197 feet, decelerate to zero speed, and begin a vertical descent to the landing pad.

Figure 2. Representative PADDC Layout



Source: Amazon Prime Air, 2022.

2.1 Flight Profiles

Flight profiles of drone operations are broken into five general phases: takeoff, transitions to and from vertical and horizontal flight, en route, delivery, and landing. These phases can be combined to represent the typical operational profile of the drone as outlined below. A graphical representation of the operational profile is presented in **Figure 3** and each phase is summarized in **Table 1**.

Takeoff, Vertical Ascent, Transition, and Outbound Climb

The drone departs from the launch pad once cleared for takeoff. It will ascend vertically to the transition altitude of 115 feet AGL in vertical flight mode.

Upon reaching the transition altitude, and while still positioned above the launch pad, the drone transitions from zero speed to its cruise speed of 58.3 knots and continues an outbound climb to the typical cruise altitude of 200 feet AGL (ranges from 180 and 279 feet AGL). This transition is accompanied by a shift from vertical flight mode to horizontal flight mode.

Fixed-wing Outbound Cruise

The drone proceeds to fly at the typical cruise altitude of 200 feet AGL (ranges from 180 to 279 feet AGL) and 58.3 knots to the backyard descent and transition.

Backyard Descent, Delivery, Ascent, Transition, and Inbound Climb

The drone decelerates from the en route speed of 58.3 knots and descends from the typical outbound cruise altitude of 200 feet AGL (ranges from 180 to 279 feet AGL) to a transition altitude of 140 feet AGL. The drone then transitions to vertical flight mode, where it will be positioned over the delivery point at zero speed.

The drone begins a vertical descent from the transition altitude to 13 feet AGL while maintaining position above the delivery point. Once at 13 feet AGL, the drone drops the package and ascends vertically back to the transition altitude of 197 feet AGL. The nearest allowable proximity of any individual, animal, or other obstacles to the delivery point during this maneuver is 16.4 feet.

Once at the transition altitude and positioned above the delivery point, the drone transitions from zero speed to en route speed while changing from vertical flight to horizontal flight and continues to climb to the typical inbound cruise altitude of 345 feet AGL (ranges from 279 to 377 feet AGL).

Fixed-wing Inbound Cruise

The drone continues to fly at the typical en route altitude of 345 feet AGL (ranges from 279 to 377 feet AGL) and speed of 58.3 knots towards the PADDC.

Landing Descent, Transition, Vertical Descent, and Landing

The drone decelerates as it approaches the PADDC and descends to the transition altitude of 197 feet AGL and where it transitions from horizontal flight to vertical flight, coming to a zero-speed position over its assigned landing pad.

The drone descends over its assigned landing pad in vertical flight until it touches down and shuts down the motors.

Table 1. Representative Operational Profile by Phase of Flight

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 115	0	15
Transition and Outbound Climb	115 to 279	0 to 58.3	40
Fixed Wing Outbound Cruise	200[1]	58.3	Variable[3]
Delivery Descent and Transition	Descent from 200 to 140	58.3 to 0	30
Backyard Descent	Descent from 140 to 13	0	27
Delivery	13	0	4
Backyard Ascent	Ascent from 13 to 197	0	30
Transition and Inbound Climb	Ascent from 197 to 377	0 to 58.3	40
Fixed-Wing Inbound Cruise	377[2]	58.3	Variable[3]
Landing Descent and Transition	Descent from 377 to 197	58.3 to 0	30
Vertical Descent and landing	Descent from 197 to 0	0	35

SOURCE: Amazon Prime Air, February 2025

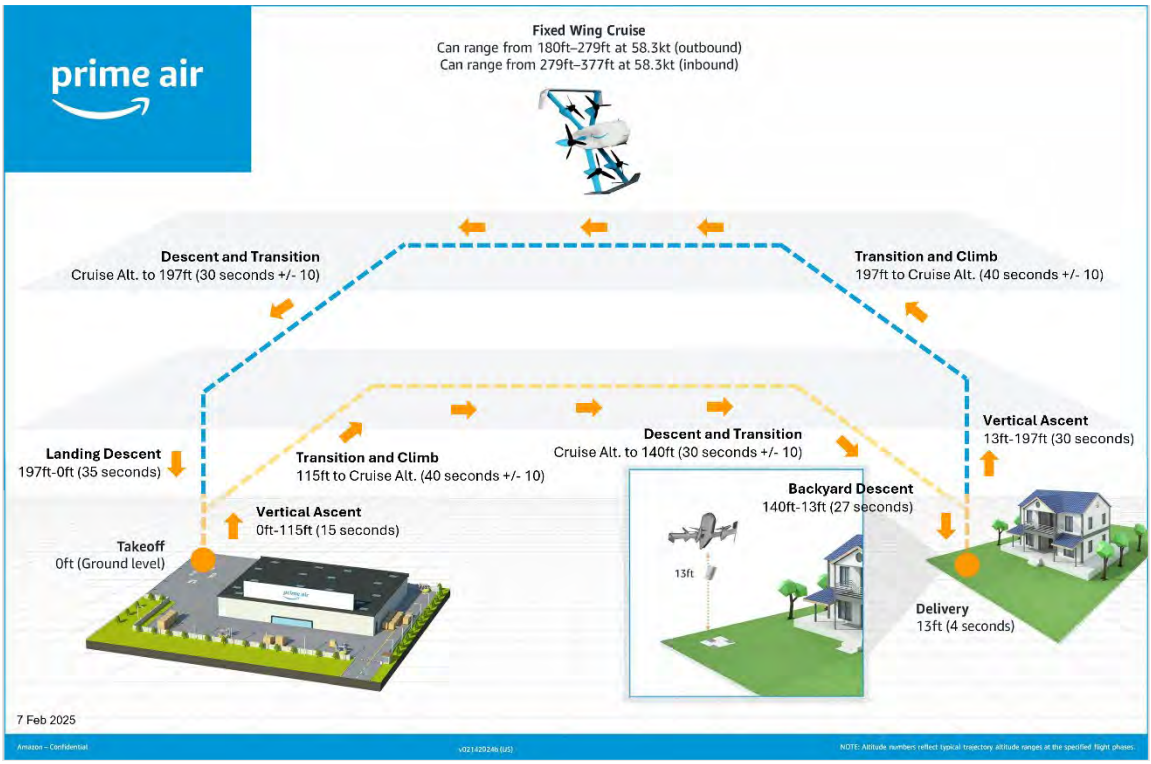
Notes:

[1] The outbound enroute altitude may range from 180 – 279 feet. For this analysis the outbound cruise altitude was assumed to be 200 feet.

[2] The inbound enroute altitude may range from 279 – 377 feet. For this analysis the inbound cruise altitude was assumed to be 345 feet.

[3] Duration of inbound and outbound cruise flight time varies based on distance to customer.

Figure 3. Representative Operational Profile of the MK30



Source: Prime Air, 2025.

3 Methodology

As previously mentioned, there is not a standardized process for drone noise assessments. Therefore, ESA is applying technical guidance that was previously approved by the FAA Office of Environment and Energy for past analyses. The following subsections outline this methodology.

Prime Air conducted noise measurements of the MK30 drone in October 2024 at the Pendleton UAS Range located at the Eastern Oregon Regional Airport (KPDT). ESA, in coordination with the FAA, processed and analyzed the measurement data and calculated the noise levels for each of the flight phases.[5] The following subsections show either the A-weighted Sound Exposure Levels (SEL) or formulas to calculate the SELs used for this analysis, which can be matched to each flight phase detailed in **Table 1**.

3.1 Daytime Equivalent Operations and DNL

As mentioned, results are presented as DNL which applies a 10 dB weighting, or equivalent to 10 times the number of nighttime operations, for operations between 10:00 P.M. and 7:00 A.M. Therefore, the operations near point *i* can be weighted to develop a daytime equivalent number of operations ($N_{equiv,i}$).

[5] Prime Air MK30 Done Noise Measurement Report, Environmental Science Associates, April 2025. (See Attachment B).

$$eq.1.\ N_{Equiv,i} = W_{Day} \text{ x } N_{Day,i} + W_{Eve} \text{ x } N_{Eve,i} + W_{Night} \text{ x } N_{Night,i}$$

Where:

- $N_{Day,i}$ is the number of user-specified operations between 7 A.M. and 7 P.M. local time
- $N_{Eve,i}$ is the number of user-specified operations between 7 P.M. and 10 P.M. local time
- $N_{Night,i}$ is the number of user-specified operations between 10 P.M. and 7 A.M. local time
- W_{Day} is the day-time weighting factor, which is 1 operation for DNL
- W_{Eve} is the evening weighting factor, which is 1 operation for DNL
- W_{Night} is the night-time weighting factor, which is 10 operations for DNL

The number of daytime equivalent operations, $N_{DNL,i}$ can be simplified to

$$eq.2.\ N_{DNL,i} = N_{Day,i} + N_{Eve,i} + 10 \text{ x } N_{Night,i}$$

3.2 PADDC Infrastructure

Each PADDC accommodates four sets of launch and landing pads. In the context of this noise analysis, it is assumed that all operations would occur at one launch/landing pad, where it would be the closest to the noise-sensitive areas. This assumption is considered acoustically conservative. If the precise location of the nearest single launch or landing pad is unknown, the respective PADDC boundary should be used for the analysis.

3.3 Application of Acoustical Data

The summation of the SELs presented in subsequent sections are used to estimate the DNL for Prime Air's drone operations covered in this report. SEL results are detailed in the measurement report found in **Attachment B**.

For calculating SEL, four specific activities are considered:

- The drone taking off from the PADDC (includes transition between vertical and horizontal flight)
- En route travel of the drone in horizontal flight between the PADDC and the delivery point
- Delivery
- The drone landing at the PADDC (includes transition between vertical and horizontal flight)

3.3.1 Takeoff

The process for estimating SELs associated with takeoff as a function of distance from the PADDC is presented in Equation 3 and incorporates the parameters detailed in **Table 2**.

$$eq.3.\ SEL = m \text{ x } Log_{10}(d) + b(dB)$$

Where:

- d is the distance along the ground in feet between the drone and receiver
- m and b are parameters provided in the tables below

Table 2. Parameters for Estimating Takeoff Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
20 to 76	-14.51	109.35
76 to 195	-13.51	107.46
195 to 372	-14.66	110.09
372 to 772	-17.08	116.32
772 to 1,205	-17.05	116.23
1,205 and greater	0.00	63.7

SOURCE: ESA, 2025.
Note: Distance is along ground from launch pad to receiver.

Application of the SEL is based on the position of the launch/landing pad, where it would be the closest to the noise-sensitive areas. However, if the exact location of the launch pad is not known, the outer boundary of the PADDC, at a point closest to the receiver, should be used as it considered to be acoustically conservative. It should be noted that the SEL values include the transition to horizontal flight and the acceleration to en route speed that would occur during the climb.

3.3.2 En Route

The anticipated outbound flight speed of the drone en route is 58.3 knots at a cruise altitude of 200 feet AGL. For inbound flight the anticipated cruise altitude is 345 feet AGL with the same 58.3 knot flight speed. As discussed in **Appendix B**, adjustments were applied to the measured data to account for how the varying speed impacts the duration of the overflight at the stationary receptor.

As shown in **Table 3**, the SEL is 63.7 dB when the drone is at maximum weight, at 200 feet from the stationary receiver and traveling at approximately 58.3 knots. The SEL is 60.9 dB when the drone is at empty weight, 345 feet from the stationary receiver, and traveling at approximately 58.3 knots.

Table 3. Estimates of En Route Sound Exposure Level

Aircraft Configuration	Reference Air Speed (knots)	Reference Altitude (feet AGL)	Uncorrected Speed (knots)	Uncorrected Altitude (feet AGL)	Uncorrected SEL (dBA)	Corrected SEL (dBA)
Maximum Weight	58.3	200	60.8	116	66.1	63.7
Empty Wight	58.3	345	60.8	98	66.9	60.9

SOURCE: ESA, 2025.

3.3.3 Delivery

The process for estimating SELs associated with delivery as a function of distance from a receiver relative to the position of the delivery point is presented in Equation 3 and incorporates the parameters detailed in **Table 4**.

Table 4. Parameters for Estimating Delivery Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
25 to 76	-13.18	110.56
76 to 175	-18.65	120.84
175 to 372	-13.86	110.11
372 to 772	-15.63	114.67
772 to 1,820	-15.63	114.65
1,820	0.00	63.7

SOURCE: ESA, 2025.
Note: Distance is along ground from delivery point to receiver.

The minimum distance used for calculation between the delivery point and a person is 16.4 feet.[6] The values in **Table 4** are valid for distances from the delivery point of 25 feet or greater. SEL values for distances between 16 and 25 feet are adjusted by distance to the delivery point and sound level adjustment of a stationary source as provided by Equation 4.

$$eq.4.\ SEL_{Delivery} = 92.1 + 12.5 \text{ x } Log_{10} \frac{25}{Distance\ from\ Delivery\ Point\ (ft)}$$

It should be noted that the SEL values include the noise contribution from the horizontal flight associated with the drone transition from en route to descent and transition, including the transition to vertical flight and transition back to en route altitude.

3.3.4 Landing

The process for estimating SELs associated with landing as a function of distance from the PADDC is presented in Equation 3 and incorporates the parameters detailed in **Table 5**.

Table 5. Parameters for Estimating Landing Sound Exposure Level versus Distance

Range for d (feet from launch pad)	m	b
20 to 76	-14.95	111.28
76 to 195	-16.17	113.58
195 to 375	-21.10	124.86
375 to 1,074	-21.10	124.87
1,074	0.00	60.9

SOURCE: ESA, 2025.
Note: Distance is along ground from launch pad to receiver.

If the location of the landing pad is known, the outer boundary of the PADDC (at a point closest to the noise sensitive receiver), should be used for the modeling location as a conservative approach. It should be noted that the SEL values include the descent from en route altitude and the deceleration from en route speed, and the transition to vertical flight that would occur after the initial descent.

[6] Prime Air's safety guidance stipulates that there should not be a person, animal or object within 5 meters of the delivery point, and if the drone detects a person, animal or object within 5 meters of the delivery point, it will abort the delivery.

3.4 DNL Estimation Methodology

The number of operations flying over a specific receiver's ground location will fluctuate depending on the proposed operating area and demand. For a given receiver location, *i*, and a single instance of sound source, *A*, the SEL for that sound source SEL_{iA} is (energy) summed for the average annual daily number of DNL daytime equivalent operations ($N_{DNL,iA}$) to compute the equivalent DNL in Equation 5.

$$eq.5.\ DNL_{iA} = SEL_{iA} + 10 \text{ x } Log_{10}\left(N_{DNL,iA}\right) - 49.4, dB$$

The above equation applies to an SEL value representing one noise source such as a drone takeoff or landing. For cases where a receiver would be exposed to multiple noise sources (e.g. takeoff, transiting, en route, and departure), the complete DNL at that point was calculated with Equation 6.

$$eq.6.\ DNL_i = 10 \text{ x } Log_{10}\left(10^{\left(\frac{DNL_{ia}}{10}\right)} + 10^{\left(\frac{DNL_{ib}}{10}\right)} + \cdots + 10^{\left(\frac{DNL_{iz}}{10}\right)}\right), dB$$

For each of the conditions presented below, results are presented in tabular format based on the equivalent daytime operations, in DNL daytime equivalent, for the estimated DNL. The proper output of DNL is dependent on the calculation of respective daytime equivalent operations.

3.4.1 DNL at PADDC

The takeoff and landing operations are anticipated to occur at one PADDC for this analysis. Therefore, the results at the PADDC will be calculated for a single set of receptors. Operations were assumed to takeoff and land along the same flight path.

Takeoff operations are represented by two phases of flight. The drone will take off and climb to the transition altitude as discussed in **Section 2**. The drone will then transition from vertical flight to horizontal flight and accelerate to en route speed of 58.3 knots and climb to en route altitude.

Landing operations are also represented by two phases of flight. The drone flies to the PADDC at en route altitude until it begins to descend to the transition altitude while slowing down and transitions from horizontal to vertical flight as described in **Section 2**. Then the drone descends from the transition altitude to the ground and shuts down.

The two noise sources representing the complete takeoff and landing cycle associated with a single delivery departing and returning at the PADDC were added together using Equation 6.

3.4.2 DNL for En Route

A receiver will be positioned directly under the flight path, and the DNL will be calculated based on the altitude and speed-adjusted delivery SEL presented in **Table 3**. The number of operations would be based on relevant materials and assume that a drone directly overflies the receiver while at maximum and empty weight for outbound and inbound flight, respectively, for a single delivery. The en route outbound and inbound noise level are added together with Equation 6.

3.4.3 DNL for Delivery Points

Delivery operations are represented by the deceleration of the drone from en route speed and transition from horizontal flight to vertical flight over the delivery point at the transition altitude of 140 feet AGL. The drone then begins a vertical descent to where the package is dropped at the delivery point at 13 feet AGL. The drone then climbs back to the transition altitude of 197 feet AGL where it will transition from vertical flight to horizontal flight, accelerating to en route speed.

4 Estimated Noise Exposure

This section outlines the estimated noise exposure for Prime Air's proposed operations for any given number of average annual day (AAD) deliveries. Results are based off the estimated number of DNL equivalent deliveries associated with the PADDC and presented in tabular format. Deliveries will not occur during nighttime hours (10 P.M. – 7 A.M.). Note that one delivery includes the outbound takeoff and inbound landing and is representative of two operations.

The DNL equivalent deliveries, $N_{DNL,i}$ as described in **Section 4.1**, is presented below as Equation 7.

$$eq.7.\ Deliveries_{DNL,i} = Deliveries_{Day} + 10 \text{ x } Deliveries_{Night}$$

$Deliveries_{Day}$ are between 7 A.M. and 10 P.M. and $Deliveries_{Night}$ are between 10 P.M. and 7 A.M. If a portion of a delivery (either takeoff or landing) occurs in the nighttime hours, then it is counted within $Deliveries_{Night}$.

For estimating noise exposure, the noise levels for each flight phase are considered separate based on the level of proposed operations for a given location. When a particular receptor is at the transition of different flight phases, the noise exposure is then determined by adding the noise from each phase.

4.1 Noise Exposure for Operations at the PADDC

For operations at the PADDC, noise generated by the drone includes takeoff, landing, and transitions from vertical to horizontal flight within the corresponding flight phases. It was assumed that all operations follow the same en route flight path, with outbound and inbound flights traversing it in opposing directions for a conservative approach.

Table 6 presents estimated extent of noise exposure for the number of average daily DNL equivalent deliveries (including the takeoff and climb, transition to en route outbound, transition from en route inbound, and descent and landing as detailed in **Section 2**) under the flight path for the PADDC. The analyses presented were rounded up conservatively to the nearest interval available from the data outlined in this section.

Table 6. Estimated Extent of Noise Exposure from PADDC per Number of Deliveries

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 1	<= 365	21	21	21	21	21
<= 5	<= 1,825	50	21	21	21	21
<= 10	<= 3,650	100	50	21	21	21
<= 15	<= 5,475	100	50	21	21	21
<= 20	<= 7,300	100	50	21	21	21
<= 40	<= 14,600	150	100	50	21	21
<= 60	<= 21,900	200	100	50	21	21
<= 80	<= 29,200	250	150	50	21	21
<= 100	<= 36,500	300	150	100	50	21
<= 120	<= 43,800	350	150	100	50	21
<= 140	<= 51,100	350	200	100	50	21
<= 160	<= 58,400	400	200	100	50	21
<= 180	<= 65,700	450	200	100	50	21
<= 200	<= 73,000	450	200	100	50	21
<= 220	<= 80,300	500	250	100	50	21
<= 240	<= 87,600	500	250	100	50	21
<= 260	<= 94,900	500	250	150	50	21
<= 280	<= 102,200	550	300	150	50	50
<= 300	<= 109,500	550	300	150	100	50
<=320	<= 116,800	600	300	150	100	50
<= 340	<= 124,100	600	300	150	100	50
<= 360	<= 131,400	600	300	150	100	50
<= 380	<= 138,700	650	350	150	100	50
<= 400	<= 146,000	650	350	150	100	50
<= 420	<= 153,300	700	350	150	100	50
<= 440	<= 160,600	700	350	200	100	50
<= 460	<= 167,900	700	400	200	100	50
<= 480	<= 175,200	750	400	200	100	50
<= 500	<= 182,500	750	400	200	100	50
<= 520	<= 189,800	750	400	200	100	50
<= 540	<= 197,100	800	400	200	100	50
<= 560	<= 204,400	800	400	200	100	50
<= 580	<= 211,700	800	450	200	100	50
<= 600	<= 219,000	850	450	200	100	50
<= 620	<= 226,300	850	450	200	100	50
<= 640	<= 233,600	850	450	250	100	50
<= 660	<= 240,900	900	450	250	100	50
<= 680	<= 248,200	900	450	250	100	50
<= 700	<= 255,500	900	500	250	100	50
<= 720	<= 262,800	950	500	250	100	50
<= 740	<= 270,100	950	500	250	100	50
<= 760	<= 277,400	950	500	250	100	50
<= 780	<= 284,700	950	500	250	100	50
<= 800	<= 292,000	1,000	500	250	150	50
<= 820	<= 299,300	1,000	500	250	150	50

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure (feet)				
Average Daily	Annual	DNL 45	DNL 50	DNL 55	DNL 60	DNL 65
<= 840	<= 306,600	1,000	550	250	150	50
<= 860	<= 313,900	1,050	550	250	150	50
<= 880	<= 321,200	1,050	550	250	150	50
<= 900	<= 328,500	1,050	550	300	150	50
<= 920	<= 335,800	1,050	550	300	150	50
<= 940	<= 343,100	Note 3	550	300	150	50
<= 960	<= 350,400	Note 3	550	300	150	100
<= 980	<= 357,700	Note 3	600	300	150	100
<= 1,000	<= 365,000	Note 3	600	300	150	100

SOURCE: ESA, 2025.

Notes:

1. One delivery accounts for the outbound takeoff and inbound landing and is representative of two operations.
2. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.
3. The DNL noise level extends more than 1,074 feet from the PADDC based on the level of operations specified as the aircraft continues along its en route flight path. En route results in Section 4.2 may be more applicable in these instances for determining noise levels.

4.2 Noise Exposure under En Route Paths

When the drone is en route, it is expected to fly the same outbound flight path between the PADDC and the delivery point and inbound flight path back to the PADDC. Therefore, each receiver under the en route path would experience two overflights for each delivery served by the corresponding en route flight path.

Table 7 provides the estimated DNL for a receiver on the ground directly under an en route path for various counts of daily average DNL equivalent deliveries. The en route noise calculated for each delivery includes both the outbound traversal of the en route path at 200 feet AGL and a ground speed of 58.3 knots and the inbound traversal of the en route path at 345 feet AGL and the same ground speed of 58.3 knots.

The drone may overfly locations at operational levels that differ from both an inbound and outbound traversal of the en route path by the drone as described above and presented in **Table 7**. For these circumstances, **Table 8** presents the equations for calculating the estimated DNL for a receiver directly under a specified given number of DNL equivalent average daily individual overflights, defined as N_o.

Table 7. Estimated Noise Exposure Directly Under En Route Flight Paths

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure		
Average Daily	Annual	Outbound DNL[1]	Inbound DNL[2]	Total En Route DNL
<= 1	<= 365	14.3	11.5	16.1
<= 5	<= 1,825	21.3	18.5	23.1
<= 10	<= 3,650	24.3	21.5	26.1
<= 15	<= 5,475	26.1	23.3	27.9
<= 20	<= 7,300	27.3	24.5	29.1
<= 40	<= 14,600	30.3	27.5	32.2
<= 60	<= 21,900	32.1	29.3	33.9
<= 80	<= 29,200	33.3	30.5	35.2
<= 100	<= 36,500	34.3	31.5	36.1
<= 120	<= 43,800	35.1	32.3	36.9
<= 140	<= 51,100	35.8	33.0	37.6
<= 160	<= 58,400	36.3	33.5	38.2
<= 180	<= 65,700	36.9	34.1	38.7
<= 200	<= 73,000	37.3	34.5	39.1
<= 220	<= 80,300	37.7	34.9	39.6
<= 240	<= 87,600	38.1	35.3	39.9
<= 260	<= 94,900	38.4	35.6	40.3
<= 280	<= 102,200	38.8	36.0	40.6
<= 300	<= 109,500	39.1	36.3	40.9
<=320	<= 116,800	39.4	36.6	41.2
<= 340	<= 124,100	39.6	36.8	41.4
<= 360	<= 131,400	39.9	37.1	41.7
<= 380	<= 138,700	40.1	37.3	41.9
<= 400	<= 146,000	40.3	37.5	42.2
<= 420	<= 153,300	40.5	37.7	42.4
<= 440	<= 160,600	40.7	37.9	42.6
<= 460	<= 167,900	40.9	38.1	42.8
<= 480	<= 175,200	41.1	38.3	42.9
<= 500	<= 182,500	41.3	38.5	43.1
<= 520	<= 189,800	41.5	38.7	43.3
<= 540	<= 197,100	41.6	38.8	43.5
<= 560	<= 204,400	41.8	39.0	43.6
<= 580	<= 211,700	41.9	39.1	43.8
<= 600	<= 219,000	42.1	39.3	43.9
<= 620	<= 226,300	42.2	39.4	44.1
<= 640	<= 233,600	42.4	39.6	44.2
<= 660	<= 240,900	42.5	39.7	44.3
<= 680	<= 248,200	42.6	39.8	44.5
<= 700	<= 255,500	42.8	40.0	44.6
<= 720	<= 262,800	42.9	40.1	44.7
<= 740	<= 270,100	43.0	40.2	44.8
<= 760	<= 277,400	43.1	40.3	44.9
<= 780	<= 284,700	43.2	40.4	45.1
<= 800	<= 292,000	43.3	40.5	45.2
<= 820	<= 299,300	43.4	40.6	45.3

Number of DNL Equivalent Deliveries		Estimated Extent of Noise Exposure		
Average Daily	Annual	Outbound DNL[1]	Inbound DNL[2]	Total En Route DNL
<= 840	<= 306,600	43.5	40.7	45.4
<= 860	<= 313,900	43.6	40.8	45.5
<= 880	<= 321,200	43.7	40.9	45.6
<= 900	<= 328,500	43.8	41.0	45.7
<= 920	<= 335,800	43.9	41.1	45.8
<= 940	<= 343,100	44.0	41.2	45.9
<= 960	<= 350,400	44.1	41.3	46.0
<= 980	<= 357,700	44.2	41.4	46.0
<= 1,000	<= 365,000	44.3	41.5	46.1

SOURCE: ESA, 2025.

Notes:

1. The max weight en route noise calculated for each delivery includes both the outbound traversal of the en route path at 200 feet AGL and a ground speed of 58.3 knots.

2. The empty weight en route noise calculated for each delivery includes both the inbound traversal of the en route path at 345 feet AGL and a ground speed of 58.3 knots.

Table 8. Estimated Noise Exposure Directly Under Overflights

Altitude of Overflight	SEL for One Overflight (dB)	DNL for One Overflight Between 7 A.M. and 10 P.M. (dB)	DNL Equation for the Number of DNL Equivalent Overflights
115 feet AGL	66.7	17.5	$10 \times \log_{10}(No) + 17.5$
160 feet AGL	64.9	15.7	$10 \times \log_{10}(No) + 15.5$
165 feet AGL	64.7	15.5	$10 \times \log_{10}(No) + 15.5$
180 feet AGL	64.3	15.1	$10 \times \log_{10}(No) + 15.1$
200 feet AGL	63.7	14.5	$10 \times \log_{10}(No) + 14.5$
300 feet AGL	61.5	12.3	$10 \times \log_{10}(No) + 12.3$
345 feet AGL	60.7	11.5	$10 \times \log_{10}(No) + 11.5$
N Feet AGL	$12.5 \times \log_{10}(200/N_{ft}) + 63.7$	$SEL_1 - 49.4$	$10 \times \log_{10}(No) + DNL_1$

SOURCE: ESA, 2025.

Notes:

1. The DNL value for a given number of average DNL Equivalent Operations, N_o, can be found by using the equations associated with operation of the drone at a specified altitude and speed interval. In this case, one operation represents a single overflight.

2. All values in this table are for level flight at maximum weight and 58.3 knots.

4.3 Noise Exposure for Operations at Delivery Point

Table 9 presents the estimated DNL values for a range of potential daily average DNL equivalent delivery counts at a delivery point. The DNL values include the transition from en route speed to vertical flight at transition altitude, the delivery maneuver, and the transition from vertical flight at transition altitude to en route speed as discussed in **Section 3.4.3**. The minimum listener distance is 16.4 feet from the delivery point and corresponds to minimum distance between a person and delivery point. Values are also presented at 25 feet from the delivery point which corresponds to minimum distance from the available measurement data and analysis. Values were also calculated at distances

of 50 feet, 75 feet, 100 feet, and 125 feet from the delivery point and are representative of distances from which nearby properties may experience noise from a delivery.[7]

Table 9. Estimated Noise Exposure at Various Distances from a Delivery Point per Number of DNL Equivalent Deliveries

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet[1]	DNL at 25 feet[2]	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 1	<= 365	45.0	42.7	38.8	36.4	34.1	32.3
<= 5	<= 1,825	52.0	49.7	45.8	43.4	41.1	39.3
<= 10	<= 3,650	55.0	52.7	48.8	46.4	44.1	42.3
<= 15	<= 5,475	56.7	54.5	50.5	48.2	45.9	44.1
<= 20	<= 7,300	58.0	55.7	51.8	49.5	47.2	45.3
<= 40	<= 14,600	61.0	58.7	54.8	52.5	50.2	48.4
<= 60	<= 21,900	62.8	60.5	56.5	54.2	51.9	50.1
<= 80	<= 29,200	64.0	61.7	57.8	55.5	53.2	51.4
<= 100	<= 36,500	65.0	62.7	58.8	56.4	54.1	52.3
<= 120	<= 43,800	65.8	63.5	59.6	57.2	54.9	53.1
<= 140	<= 51,100	66.4	64.2	60.2	57.9	55.6	53.8
<= 160	<= 58,400	67.0	64.7	60.8	58.5	56.2	54.4
<= 180	<= 65,700	67.5	65.3	61.3	59.0	56.7	54.9
<= 200	<= 73,000	68.0	65.7	61.8	59.5	57.2	55.3
<= 220	<= 80,300	68.4	66.1	62.2	59.9	57.6	55.8
<= 240	<= 87,600	68.8	66.5	62.6	60.2	57.9	56.1
<= 260	<= 94,900	69.1	66.8	62.9	60.6	58.3	56.5
<= 280	<= 102,200	69.5	67.2	63.2	60.9	58.6	56.8
<= 300	<= 109,500	69.8	67.5	63.5	61.2	58.9	57.1
<=320	<=116,800	70.0	67.8	63.8	61.5	59.2	57.4
<= 340	<= 124,100	70.3	68.0	64.1	61.8	59.5	57.6
<= 360	<= 131,400	70.6	68.3	64.3	62.0	59.7	57.9
<= 380	<= 138,700	70.8	68.5	64.6	62.2	59.9	58.1
<= 400	<= 146,000	71.0	68.7	64.8	62.5	60.2	58.4
<= 420	<= 153,300	71.2	68.9	65.0	62.7	60.4	58.6
<= 440	<= 160,600	71.4	69.1	65.2	62.9	60.6	58.8
<= 460	<= 167,900	71.6	69.3	65.4	63.1	60.8	59.0
<= 480	<= 175,200	71.8	69.5	65.6	63.3	61.0	59.1
<= 500	<= 182,500	72.0	69.7	65.8	63.4	61.1	59.3
<= 520	<= 189,800	72.1	69.9	65.9	63.6	61.3	59.5
<= 540	<= 197,100	72.3	70.0	66.1	63.8	61.5	59.7
<= 560	<= 204,400	72.5	70.2	66.2	63.9	61.6	59.8
<= 580	<= 211,700	72.6	70.3	66.4	64.1	61.8	60.0
<= 600	<= 219,000	72.8	70.5	66.5	64.2	61.9	60.1
<= 620	<= 226,300	72.9	70.6	66.7	64.4	62.1	60.3
<= 640	<= 233,600	73.1	70.8	66.8	64.5	62.2	60.4
<= 660	<= 240,900	73.2	70.9	67.0	64.6	62.3	60.5

[7] The 2022 US Census national average lot size for single-family sold homes was 15,265 square feet. This is representative of a property with dimensions of a 123.55 x 123.55-foot square. 125 feet represents a 125-foot lateral width of the parcel rounded up to the nearest 25 feet. https://www.census.gov/construction/chars/ See file "Soldlotsize_cust.xls" sheet MALotSizeSold. Accessed January 18, 2024.

Average Daily Deliveries	Annual Deliveries	DNL at 16.4 feet[1]	DNL at 25 feet[2]	DNL at 50 feet	DNL at 75 feet	DNL at 100 feet	DNL at 125 feet
<= 680	<= 248,200	73.3	71.0	67.1	64.8	62.5	60.7
<= 700	<= 255,500	73.4	71.2	67.2	64.9	62.6	60.8
<= 720	<= 262,800	73.6	71.3	67.3	65.0	62.7	60.9
<= 740	<= 270,100	73.7	71.4	67.5	65.1	62.8	61.0
<= 760	<= 277,400	73.8	71.5	67.6	65.3	62.9	61.1
<= 780	<= 284,700	73.9	71.6	67.7	65.4	63.1	61.3
<= 800	<= 292,000	74.0	71.7	67.8	65.5	63.2	61.4
<= 820	<= 299,300	74.1	71.8	67.9	65.6	63.3	61.5
<= 840	<= 306,600	74.2	71.9	68.0	65.7	63.4	61.6
<= 860	<= 313,900	74.3	72.0	68.1	65.8	63.5	61.7
<= 880	<= 321,200	74.4	72.1	68.2	65.9	63.6	61.8
<= 900	<= 328,500	74.5	72.2	68.3	66.0	63.7	61.9
<= 920	<= 335,800	74.6	72.3	68.4	66.1	63.8	62.0
<= 940	<= 343,100	74.7	72.4	68.5	66.2	63.9	62.1
<= 960	<= 350,400	74.8	72.5	68.6	66.3	64.0	62.2
<= 980	<= 357,700	74.9	72.6	68.7	66.4	64.1	62.2
<= 1,000	<= 365,000	75.0	72.7	68.8	66.4	64.1	62.3

SOURCE: ESA, 2025.

Notes:

1. Minimum possible listener distance from drone.
2. Minimum measured distance to listener from drone.
3. The DNL values presented in this table reflect the drone conducting delivery descent and transition, backyard descent, delivery, backyard ascent, and transition and inbound climb flight maneuvers associated with a delivery.
4. If a value for deliveries is not specifically defined in this table, use the next highest value. For example, if there are 50 average daily DNL equivalent deliveries, use the entry for 60 average daily DNL equivalent deliveries.

Attachment A

Attachment B

PRIME AIR MK30 DRONE NOISE MEASUREMENT REPORT

Technical Report

April 2025

ESA

PRIME AIR MK30 DRONE NOISE MEASUREMENT REPORT

Technical Report

April 2025

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1 Introduction

This document details Amazon Prime Air's (Prime Air's) recent National Environmental Policy Act (NEPA) Noise Data Collection Campaign, aimed at estimating the noise signature of the MK30 drone. The collected data will be used to evaluate operations under NEPA. The test campaign took place at the Pendleton UAS Range, situated at the Eastern Oregon Regional Airport (KPDT) in Pendleton, Oregon. The data analyzed in this report comes from flights conducted on October 11, 12, 15, 16, 19, and 23, 2024.

Prime Air's package delivery operations are managed through a network of Prime Air Drone Delivery Centers (PADDCs). Each PADDC serves a specific area, preventing an over-concentration of flights around any single center. The MK30 drone has a round-trip range of approximately 15 miles. PADDCs are strategically located in established, and planned development, parking lots of Amazon Prime warehouses, and adhere to local zoning and land use regulations.

The MK30 is an electric powered drone that uses a vertical take-off and landing (VTOL) then transitions to fixed-wing flight using wing lift during en route flight. The drone systems include hardware and software designed for safety and efficiency. The airframe is composed of staggered wings, the propulsion system includes a rechargeable lithium-ion battery, and six (6) motors that include propellers designed for noise reduction. The package delivery system contains the package in a two-door interior receptacle, and a camera and avionics system that has redundancy for critical systems. The drone weighs approximately 78 lbs. and has a maximum takeoff weight of 83.2 lbs., which includes a maximum payload of 5 lbs. It has a maximum operating range of 7.5 mi and can fly up to 400 ft above ground level (AGL) at a maximum cruise speed of 73 mph (64 knots) during horizontal flight. An image of the MK30 drone is shown in **Figure 1**.

The MK30 operational flight profiles can be broken into the following general flight phases: launch, en route outbound, delivery, en route inbound, and landing. After launch, the MK30 would ascend to an altitude of less than 400 ft AGL and follow a predefined route to its delivery site.[1] The MK30 would typically fly en route at between approximately 180 to 377 ft AGL, except when descending to drop a package. Packages would be carried internally in the drone's fuselage. When making a delivery, the drone descends, opens a set of payload doors, and drops the package to the ground from approximately 13 ft AGL. Prime Air's drone would not touch the ground in any place other than the PADDC (except during safe contingent landings) and will remain airborne throughout the operation including the delivery stage.[2] After the package is dropped, the MK30 drone climbs vertically and follows its predefined route back to the PADDC at its assigned altitude. The typical operational flight parameters can be seen below in **Table 1** and **Figure 2**. Note that these are the flight profiles for operational flights and not the flight test profiles for this noise flight test campaign.

[1] Prime Air may modify operations, if warranted, to avoid or minimize any negative impacts.

[2] The MK30 vehicle is built with multiple redundant safety features and "detect and avoid" technology. The drone is designed to handle unexpected situations; it is independently safe.

A custom measurement system was utilized, employing GRAS 46AO 1/2" pressure microphones and National Instruments data acquisition hardware, following the FAA's draft UA package delivery noise measurement protocol.[3] Flights were conducted across three flight profiles, which included takeoff/landing/delivery, hover, and overflight, to characterize the sound exposure levels (SEL) of the MK30 drone. These SEL values will be a key input to the NEPA Environmental Assessment for assessing the potential noise impact of Prime Air's proposed drone package delivery operations.

Figure 1. Amazon Prime Air MK30 Drone

Source: Amazon Prime Air, 2024.

[3] Measuring Drone Noise for Environmental Review Process, October 2023.

Table 1. Phases of Flight for Typical Flight Profile of the MK30 Drone

Phase of Flight	Altitude (feet AGL)	Ground Speed (knots)	Duration (seconds)
Takeoff and Vertical Ascent	Ascent from 0 to 115	0	15
Transition and Outbound Climb	115 to 200	0 to 58.3	40
Fixed Wing Outbound Cruise	200[1]	58.3	Variable[3]
Delivery Descent and Transition	Descent from 200 to 140	58.3 to 0	30
Backyard Descent	Descent from 140 to 13	0	27
Delivery	13	0	4
Backyard Ascent	Ascent from 13 to 197	0	30
Transition and Inbound Climb	Ascent from 197 to 345	0 to 58.3	40
Fixed-Wing Inbound Cruise	377[2]	58.3	Variable[3]
Landing Descent and Transition	Descent from 345 to 197	58.3 to 0	30
Vertical Descent and landing	Descent from 197 to 0	0	35

Source: Prime Air, 2025.

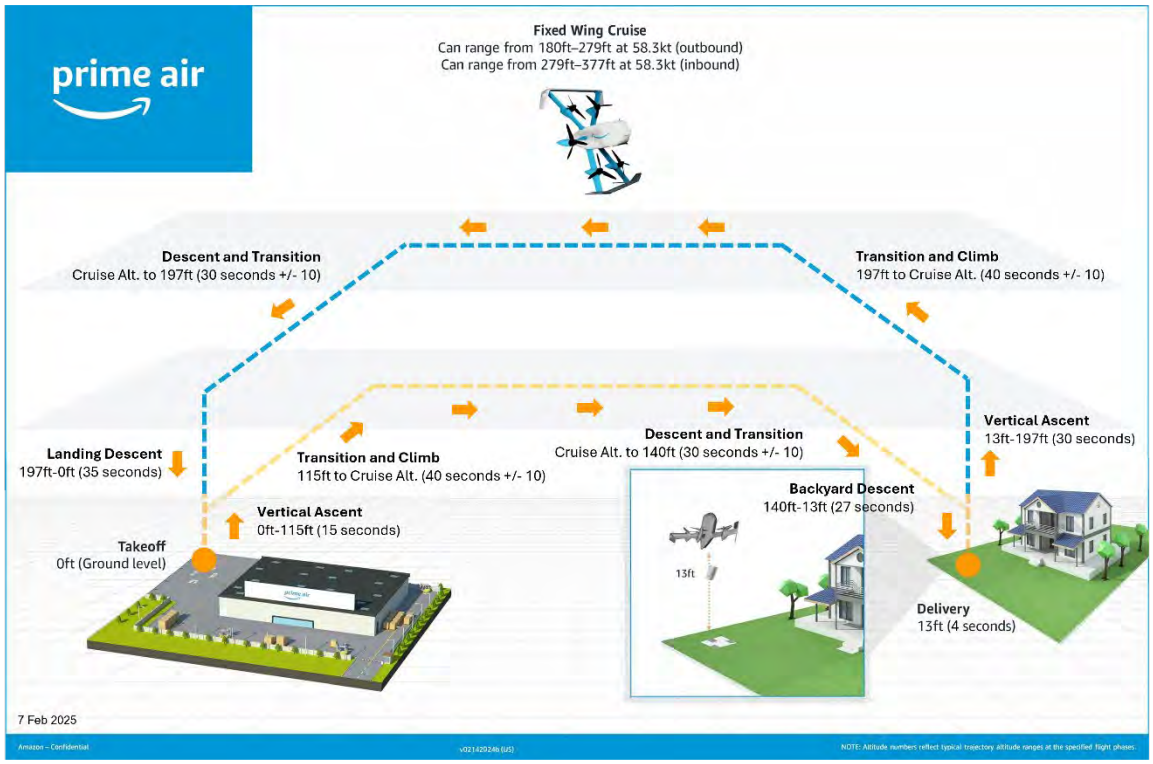
Notes:

[1] The outbound enroute altitude may range from 180 – 279 feet. For this analysis the outbound cruise altitude was assumed to be 200 feet.

[2] The inbound enroute altitude may range from 279 – 377 feet. For this analysis the inbound cruise altitude was assumed to be 345 feet.

[3] Duration of inbound and outbound cruise flight time varies based on distance to customer.

Figure 2. Representative Operational Profile of the MK30



Source: Prime Air, 2025.

2 Test Descriptions

2.1 Overview

This section describes the methodology utilized to characterize the noise signature of the MK30 drone. The following sections describe the measurement system, and detailed description of the test plan, including flight trajectories and microphone locations.

2.2 Measurement System

Prime Air utilized a proprietary Mobile Acoustic Noise Test Array (MANTA) system for experimental measurements. This system provides time synchronized audio with respect to the drone. Microphone locations are surveyed for accurate positioning. The audio, drone-synchronized time and location data allow accurate determination of sound pressure level (SPL), distance, and incidence angle required for post-processing.

The system is composed of commercially available hardware with internal and external calibrations. The data acquisition system (DAQ) is a series of daisy-chained National Instruments cDAQ-9185 units and cDAQ-9189 units with NI-9234 analog modules capable of 51.2 kHz sampling rate at 24-bit resolution. New and calibrated GRAS 46AO ½" CCP Pressure Standard Microphones were used with the factory sensitivity values for the test. Calibration tones of the microphones were collected using a GRAS 42AG sound calibrator with a 1000 Hz signal at 114dB at the start and completion of each flight. Sensitivity values can be found in **Table 2**. While the primary components of the system are detailed above, the complete system hardware can be found in **Table 3**.

Measurement accuracy can be decomposed into system and field-installation components. Although MANTA has a GPS assigned to each microphone unit, only the time solution is used in the final product. By assigning a separate GPS unit to each microphone, the system is able to time synchronize with the on-board vehicle system to within 1 ms accuracy. Although the GPS location solution is not part of the delivered data product, it is used to confirm microphone placement with respect to desired survey locations using a nearest neighbor algorithm. This reduces geographic microphone placement from ±1 m to ±5 mm before installation error. When including a ±30◦. installation error via a 1.6m tall tripod on non-level ground, horizontal and vertical location accuracy approach ±0.8m and ±0.1m, respectively.

Table 2. Microphone Data

Microphone ID	Hardware	Serial Number	Sensitivity (mV/Pa)
00	GRAS 46AO	573631	10.77
01	GRAS 46AO	573508	9.47
02	GRAS 46AO	573632	11.60
03	GRAS 46AO	573507	12.54
04	GRAS 46AO	573633	10.81
05	GRAS 46AO	573636	10.41
06	GRAS 46AO	573506	11.12
07	GRAS 46AO	573505	12.78
08	GRAS 46AO	573504	9.39
08	GRAS 46AO	573504	9.39
10	GRAS 46AO	573521	10.10
11	GRAS 46AO	573626	10.19
12	GRAS 46AO	573639	9.78

Source: Prime Air, 2024.

Note: Microphones calibrated with GRAS 42AG; Serial Number: 282324.

Table 3. Measurement System Hardware

Hardware	Quantity	Description
National Instruments cDAQ-9185	7	National Instruments cDAQ chassis with 4 module slots. 1 slot was utilized and populated with a NI-9234 4 channel Sound and Vibration module. 1 channel input was used for the GRAS 46AO microphone input.
National Instruments cDAQ-9189	3	National Instruments cDAQ chassis with 8 module slots. 1 slot was utilized and populated with a NI-9234 4 channel Sound and Vibration module. 2 channel inputs were used for the GRAS 46AO microphone input.
National Instruments Sound and Vibration Module NI-9234	10	The Sound and Vibration module used for microphone input to the system. The nidaqmx task was configured to capture microphone input at 51.2kHz at 24bits.

Source: Prime Air, 2024.

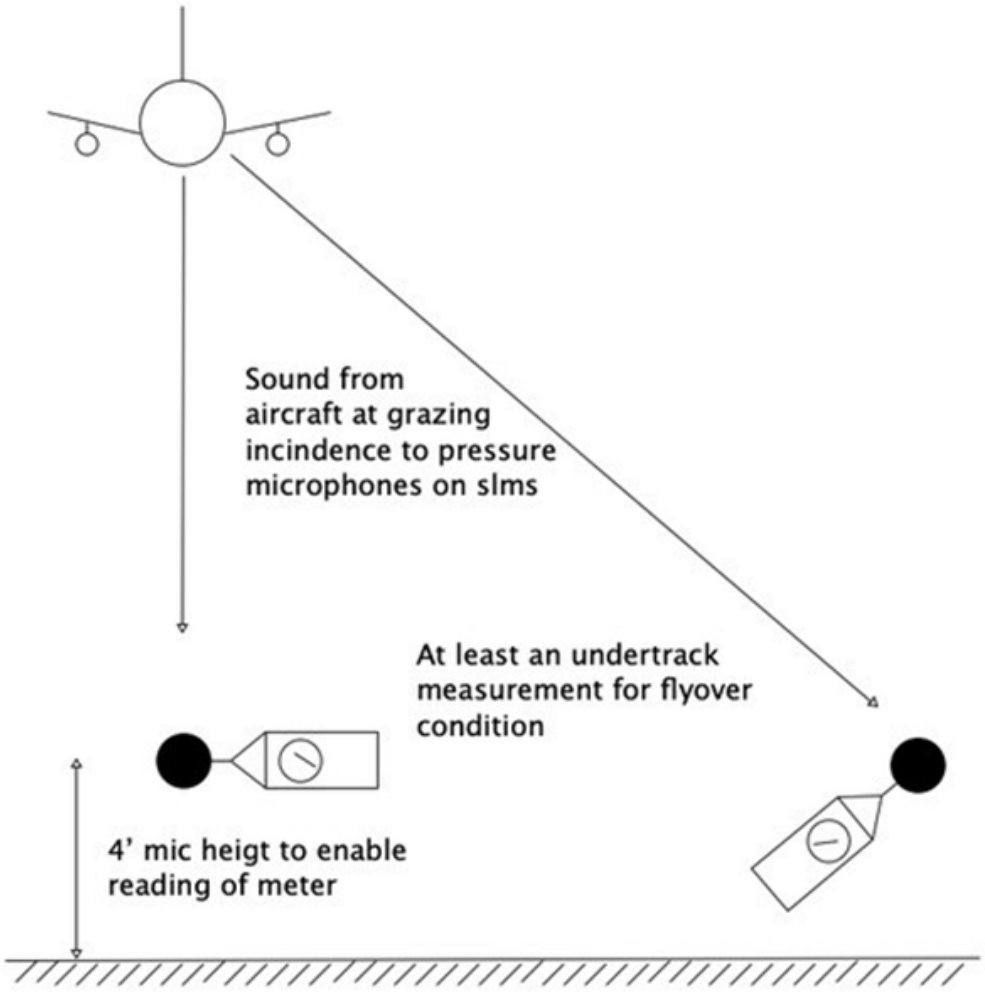
Note: All cDAQs were daisy chained together and utilized the Time-Sensitive Networking protocol to keep all data synchronized.

2.3 Microphone Locations

The microphone setup consisted of 13 pressure field microphones. In accordance with the FAA guidelines, each microphone was placed at 90 degree incidence to the sound source (drone) and is illustrated in **Figure 3**. There were no corrections applied to the measurement data due to the orientation of the microphones.

As shown in **Table 4**, microphones 00-04 were located under the takeoff, delivery, and landing flight trajectory. Microphones 05-08 were located behind the flight trajectory. Microphones 09-12 were located lateral to the flight trajectory. The table identifies the microphones used in calculating the various flight profiles. **Figure 4** provides the layout of microphones over an aerial basemap.

Figure 3. Microphone Orientation



Source: FAA.

Table 4. Microphone Location and Applicable Flight Profile

Microphone ID (position)	Distance from VTOL / Delivery (ft)	Latitude	Longitude	Applicable Flight Profile		
				Takeoff/ Landing	Delivery	Enroute/ Overflight
00 (Undertrack)	772	45.70246	-118.8586	Yes	Yes	No
01 (Undertrack)	372	45.70247	-118.8571	Yes	Yes	No
02 (Undertrack)	195	45.70247	-118.8563	Yes	Yes	No
03 (Undertrack)	75	45.70247	-118.8559	Yes	Yes	No
04 (Undertrack)	20	45.70247	-118.8557	Yes	Yes	No
05 (Behind)	19	45.70246	-118.8555	Yes	Yes	No
06 (Behind)	79	45.70247	-118.8553	Yes	Yes	No
07 (Behind)	176	45.70247	-118.8549	Yes	Yes	No
08 (Behind)	375	45.70247	-118.8541	Yes	Yes	No
09 (Lateral)	25	45.7024	-118.8556	Yes	Yes	Yes
10 (Lateral)	76	45.70227	-118.8556	Yes	Yes	Yes
11 (Lateral)	175	45.70199	-118.8556	Yes	Yes	Yes
12 (Lateral)	375	45.70144	-118.8556	Yes	Yes	Yes

Source: Prime Air, 2024.

Figure 4. Location of Microphones to Launch Pad

Source: Prime Air, 2024; ESA, 2025.

2.4 Test Limitations

The test plan consists of flights with a “dog-bone” and “half dog-bone” trajectory while the MANTA (detailed in 2.2) is positioned at the vicinity of the delivery/takeoff/landing PADDC and along a parallel and perpendicular line to the flyover trajectory. Close-in and distant measurements were captured for all VTOL phases of flight.

Additionally, some phases of the test flight profiles were slightly modified from typical operations. The duration of the delivery backyard climb was, on average, 16 seconds shorter than expected for typical operation. During the test flight the drone also climbed to a lower altitude of approximately 200 feet AGL, compared to the typical 345-foot AGL ceiling. To adjust, noise measurements were manually added at the point just before the MK30 stops climbing, where the climb rate is constant, to account for the total missing duration.

Similarly, for the return to the PADDC, the VTOL descent was, on average, 10 seconds shorter than typical operations. To adjust, noise measurements were manually added at the point just after the MK30 starts its vertical descent, where the descent rate is constant, to account for the total missing duration. Both adjustments provided a conservative (i.e., louder) approach to assessing noise exposure of the MK30.

3 Measurement Profiles

3.1 Overview

The noise measurement data for each test was reviewed and takeoff, delivery, landing, and overflight events were hand-selected for each test flight based on the drone’s altitude, speed, location, and distance from the PADDC and MANTA. Events were reviewed for each test flight and each microphone in the MANTA was checked for data quality, and were discarded based on the following criteria:

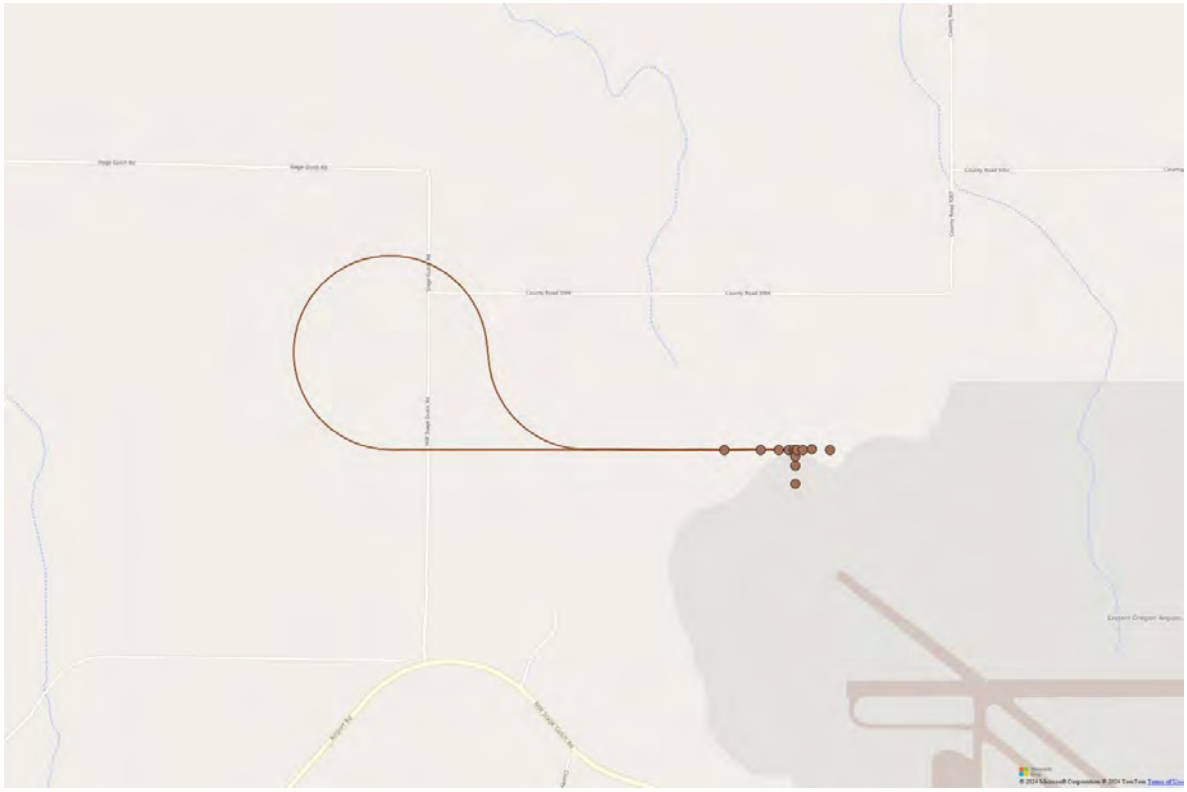
- Ambient noise level of the microphone is not reasonably close to the other microphones in the MANTA array.
- Average wind speed exceeding 5 knots during the event.
- Maximum sound level as measured by the 1-second Leq time history of the noise event not exceeding 10 dBA above the ambient noise level.
- Suspected contamination of the noise data (e.g. elevated or inconsistent ambient, sharp spikes in noise level, etc.).
- For overflight tests, data from the undertrack microphones (parallel to the direction of flight) were discarded.

3.2 Flight Test Profiles

3.2.1 Takeoff – Delivery – Landing (VTOL)

Two sets of tests were conducted with the drone performing VTOL flights at the PADDC location at the center of the MANTA to simulate takeoff, delivery, and landing operations. A total of six test flights were measured with the drone carrying no payload, and an additional seven test flights were measured with the drone carrying maximum payload. For each of these test flights the drone was flown in a "half dog-bone" flight pattern, as shown in **Figure 5**. As depicted, the drone takes off from the PADDC, and heads west before making a righthand turn through a full 270 degrees while attaining a cruise altitude of approximately 200 feet AGL. The drone then makes a left-hand 90 degree turn to re-align with the outbound flight path while descending back to PADDC elevation. The drone performs this flight pattern twice per test flight. The first outbound leg represents the takeoff phase of flight, the first inbound and second outbound legs combined represent the delivery phase of flight, and the second inbound leg represents the landing phase of flight. The drone only touches down after the second inbound leg representing the landing phase.

Figure 5. Takeoff, Delivery, and Landing Flight Pattern (Empty and MTOW)



3.2.2 Forward Flight (Flyover)

Two sets of tests were conducted with the drone overflying the MANTA to simulate an en route pass-by. A total of seven overflights were measured with the drone carrying no payload, and an additional six overflights were measured with the drone carrying maximum payload. For each of these overflights the drone was flown in a "dog-bone" flight pattern, as shown in **Figure 6**. As depicted, the drone takes off from the PADDC, heads northwest to transition and makes a lefthand turn while attaining a cruise altitude of 104 feet AGL at empty weight and 123 feet AGL at max weight.[4] It then flies over the MANTA, then performs another lefthand turn through a full 270 degrees before turning right 90 degrees to realign with the eastbound portion of the flight path before overflying the MANTA again, and finally reversing the original outbound route back to the PADDC. This maneuver was repeated for each flight in both the max and empty weight test scenarios.

Figure 6. Flyover Flight Pattern (Empty and MTOW)

[4] Empty and max weight en route flight tests were flown at different altitudes to ensure measurement was above ambient noise levels.

3.3 Test Condition: Takeoff (Max Weight)

3.3.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 5**. There were no weather exceedances that would deem measurements invalid.

Table 5. Takeoff (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	49.3	4.4	114	6.2	56.5
2	55.5	2.0	165	3.5	43.9
3	59.7	4.0	275	7.4	36.4
4	60.1	3.6	233	7.0	35.6
5	50.0	3.4	101	4.3	52.7
6	45.8	4.0	90	4.9	62.5
7	47.8	4.0	121	6.2	60.2

Source: Prime Air, 2024; ESA, 2025.

3.3.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 91 data points, 17 were identified as invalid, as detailed in the **Table 6**. Therefore, 74 data points were deemed valid.

Table 6. Takeoff (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00 (Undertrack)	7	Measurement too close to ambient
Mic 05 (Behind)	4	Elevated ambient levels across measurement
Mic 08 (Behind)	1, 5, 6, 7	Measurement too close to ambient
Mic 09 (Lateral)	1, 2, 3, 4, 5	Elevated ambient levels across measurement
Mic 12 (Lateral)	2, 3, 4, 5, 6, 7	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.4 Test Condition: Delivery (Max Weight)

3.4.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 7**. There were no weather exceedances that would deem measurements invalid.

Table 7. Delivery (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	49.1	4.1	123	6.0	56.6
2	55.6	1.2	260	3.7	43.5
3	59.8	5.0	283	7.4	36.3
4	60.3	4.6	222	6.2	35.2
5	50.6	2.9	92	4.3	52.3
6	45.8	4.5	93	4.9	62.8
7	47.9	4.2	112	6.2	59.7

Source: Prime Air, 2024; ESA, 2025.

3.4.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 91 data points, 14 were identified as invalid, as detailed in **Table 8**. Therefore, 77 data points were deemed valid.

Table 8. Delivery (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00 (Undertrack)	7	Elevated ambient levels across measurement
Mic 08 (Behind)	5, 6, 7	Measurement too close to ambient
Mic 09 (Lateral)	1, 2, 3, 4, 5	Elevated ambient levels across measurement
Mic 12 (Lateral)	2, 3, 4	Elevated ambient levels across measurement
Mic 12 (Lateral)	5, 6	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.5 Test Condition: Landing (Empty Weight)

3.5.1 Weather Conditions

The average weather conditions for each test at empty weight are in **Table 9**. Test 3 wind speed exceeded the weather threshold for wind and would invalidate the measurement.

Table 9. Landing (Empty Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1	51.5	3.4	309	6.8	61.3
2	62.4	1.2	298	6.0	33.0
3	61.4	5.2	321	7.8	34.7
4	59.9	3.4	271	5.2	44.6
5	42.6	4.8	118	5.6	83.0
6	56.8	1.0	108	2.1	51.1

Source: Prime Air, 2024; ESA, 2025.

3.5.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 78 data points, 35 were identified as invalid, as detailed in **Table 10**. Therefore, 43 data points were deemed valid.

Table 10. Landing (Empty Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 00-12 (all)	3[1]	Exceeds crosswind component
Mic 01	4	Elevated ambient levels across measurement
Mic 05	1, 4, 6	Elevated ambient levels across measurement
Mic 08	4, 5, 6	Elevated ambient levels across measurement
Mic 09	1, 6	Elevated ambient levels across measurement
Mic 10	2	Elevated ambient levels across measurement
Mic 12	2	Elevated ambient levels across measurement
Mic 00	1, 2, 4, 5, 6	Measurement too close to ambient
Mic 01	5	Measurement too close to ambient
Mic 08	1	Measurement too close to ambient
Mic 11	5	Measurement too close to ambient
Mic 12	1, 4, 6	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes:

Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

[1] Test 3 was invalid for all microphone positions and accounts for 13 data points.

3.6 Test Condition: Flyover (Empty Weight)

3.6.1 Weather Conditions

The average weather conditions for each test at empty weight are shown in **Table 11**. Test 3-1, 3-2, and 4-2 wind speeds exceeded the weather threshold for wind and would invalidate the measurement.

Table 11. Flyover (Empty Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1-1	45.3	4.0	102	4.5	62.8
1-2	45.5	3.8	93	4.5	62.2
2-1	65.1	2.4	177	4.1	38.7
2-2	65.1	3.0	213	4.1	38.4
3-1	62.2	5.9	326.2	10.9	34.6
3-2	62.8	7.5	312.6	10.9	35.6
4-1	63.3	4.3	300	11.1	34.1
4-2	63.9	6.4	353.4	10.7	33.9
5-1	61.3	2.2	320	9.9	37.8
5-2	61.7	3.0	341	9.9	37.4
6-1	61.3	4.4	34	9.1	37.3
6-2	61.0	2.6	22	7.4	37.0
7-1	45.5	4.2	102	4.7	61.5
7-2	45.7	3.9	105	4.7	61.3

Source: Prime Air, 2024; ESA, 2025.

3.6.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 56 data points, 25 were identified as invalid, as detailed in **Table 12**. Therefore, 31 data points were deemed valid.

Table 12. Flyover (Empty Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 09 - 12	3-1, 3-2, 4-2	Exceeds crosswind component
Mic 09	4-1	Measurement too close to ambient
Mic 10	6-2	Measurement too close to ambient
Mic 11	6-1	Elevated ambient levels across measurement
Mic 12	1-1, 1-2, 2-2, 4-1, 5-1, 5-2, 6-1, 6-2, 7-1, 7-2	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

3.7 Test Condition: Flyover (Max Weight)

3.7.1 Weather Conditions

The average weather conditions for each test at max weight are shown in **Table 13**. There were no weather exceedances that would deem measurements invalid.

Table 13. Flyover (Max Weight) Weather Conditions

Test Number	Temperature (°F)	Average Wind Speed (knots)	Wind Direction (Degrees)	Average Wind Gust Speed (knots)	Relative Humidity (%)
1-1	53.4	1.6	96.6	4.4	53.8
1-2	53.2	2.9	82.3	4.1	53.6
2-1	48.4	3.3	77.3	5.8	62.8
2-2	49.3	3.6	123.5	5.8	60.9
3-1	54.5	1.7	132.1	3.5	52.2
3-2	54.9	2.2	306.5	3.5	51.3
4-1	56.7	2.1	170.8	3.9	48.7
4-2	56.1	1.9	214.0	4.1	49.2
5-1	50.9	3.3	116.9	4.7	59.1
5-2	51.1	2.7	131.5	4.7	58.6
6-1	65.5	1.6	191.3	4.1	53.5
6-2	65.3	3.7	245.7	7.0	56.7

Source: Prime Air, 2024; ESA, 2025.

3.7.2 Test Points and Validity

Appendix B and **Appendix C** present the tabulated and time history results, respectively, for all measurements. Out of the 48 data points, 12 were identified as invalid, as detailed in **Table 14**. Therefore, 36 data points were deemed valid.

Table 14. Flyover (Max Weight) Excluded Measurements

Microphone ID (position)	Test Number	Reason Not Included
Mic 12	All	Measurement too close to ambient

Source: Prime Air, 2024; ESA, 2025.

Notes: Measurement data that has been excluded under this noise analysis are presented in Appendix B and Appendix C.

4 Measurement Analysis

A range of metrics were calculated for each event and at each microphone. These metrics include ambient noise level (defined as the noise level when the drone's rotors are not powered), Leq, Maximum Sound Level (Lmax), and SEL. Additional parameters regarding flight performance and weather conditions were also considered. It should be noted that the empty weight takeoff and max weight landing cases are not used in any subsequent analyses.

4.1 Overflight Analysis

As noted in the previous section, only the microphones positioned perpendicular to the flight path were utilized for analyzing the overflight data. For each event and microphone, the measured SEL was adjusted using correction factors to normalize the noise to the speed and distances specified by Prime Air's typical flight profile, as described in Section 1. **Table 15** below outlines the parameters used for normalization.

Table 15. Enroute Normalization Parameters

Test Case	Normalization Speed (knots)	Normalization Distance (ft)
Empty Weight	58.3	345
Max Weight	58.3	200

Source: Prime Air, 2024; ESA, 2025.

The SELs for each microphone were averaged and the highest resulting SEL was selected for use as the computed en route noise level. The results of this analysis are presented in **Table 16** below along with the undertrack distance and point of closest approach (POCA) slant distance. The most conservative empty-weight en route noise level was computed to be 61.0 dBA. The most conservative max-weight en route noise level was computed to be 63.9 dBA. **Figure 7** and **Figure 8** present the range of measured en route SEL's for empty weight and max weight, respectively.

Table 16. En Route Averaged A-Weighted SELs (Empty and Max Weight)

Test Case	Microphone ID (Position)	Undertrack Distance (ft)	POCA Slant Distance (ft)	Normalized SEL[1] (dBA)
Empty Weight	09 (Lateral)	18.4	99.3	60.4
	10 (Lateral)	57.8	112.8	60.9
	11 (Lateral)	152.8	180.8	59.1
Max Weight	09 (Lateral)	20.0	118.4	63.0
	10 (Lateral)	56.0	128.9	63.7
	11 (Lateral)	152.7	191.7	61.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Microphone ID 12 (lateral) is excluded as results were not sufficiently above ambient noise levels.

[1] Measured levels normalized to 58.3 kts before averaging. Using 12.5*log10(POCA Slant / Normalized Adjustment Slant); empty weight normalized to 345 feet; max weight normalized to 200 feet.

Figure 7. Range of MK30 Averaged A-Weighted SELs from En Route at Empty Weight

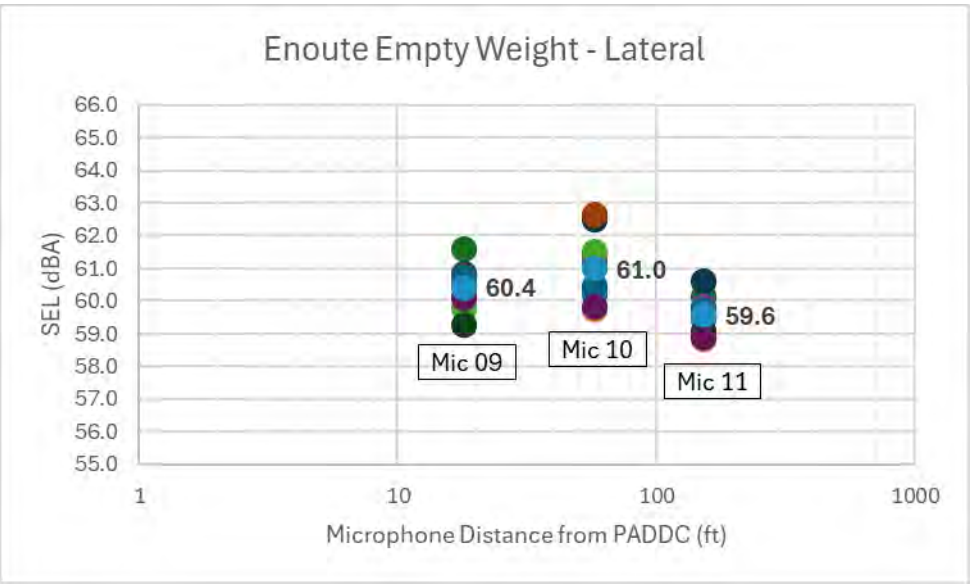
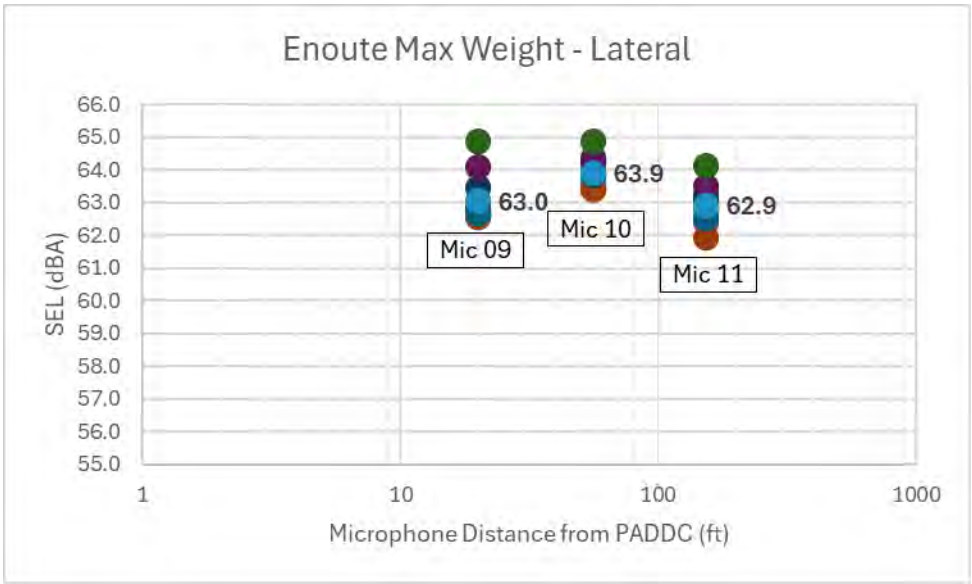


Figure 8. Range of MK30 Averaged A-Weighted SELs from En Route at Max Weight



4.2 VTOL Analysis

For each microphone and each test flight, the takeoff, delivery, and landing SELs were averaged. **Table 17** presents the results for takeoff, delivery, and landing. Scatter plots for these measurements are shown in **Figure 9** through **Figure 17**.

Table 17. Takeoff, Delivery, and Landing Averaged A-Weighted SELs

Distance to PADDC (ft)	Max Weight		Empty Weight
	Takeoff	Delivery	Landing
Undertrack			
20	90.5	91.7	91.8
75	81.6	83.7	82.8
195	76.5	78.8	76.5
372	72.4	74.5	70.4
772	-	69.5	-
Behind			
19	89.8	92.0	91.2
79	80.0	83.2	81.6
176	73.5	77.3	75.3
375	67.3	71.3	70.5
Lateral			
25	88.8	92.1	89.9
76	82.1	85.8	83.2
175	75.5	79.0	76.3
375	68.2	71.1	-

Source: Prime Air, 2024; ESA, 2025.

Figure 9. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Undertrack

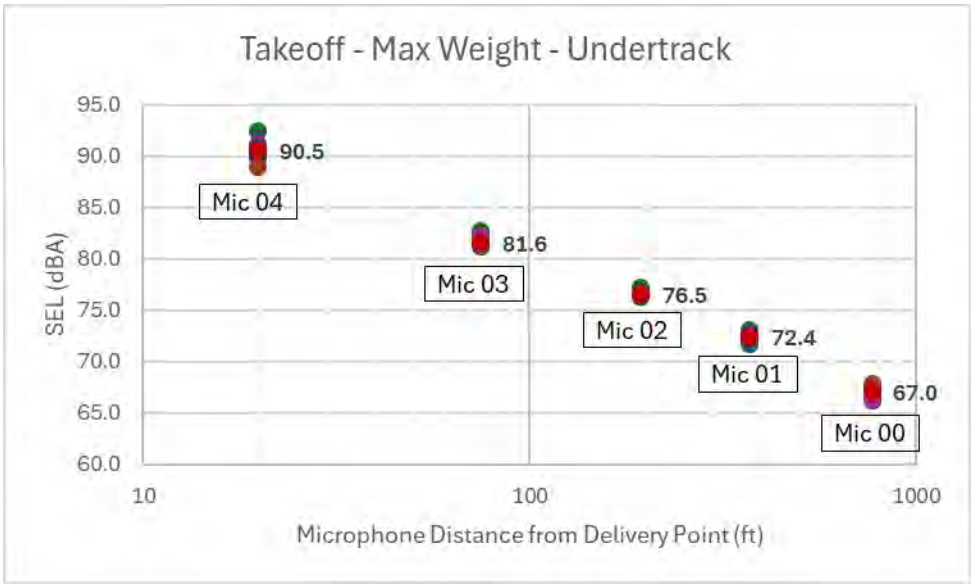


Figure 10. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Behind

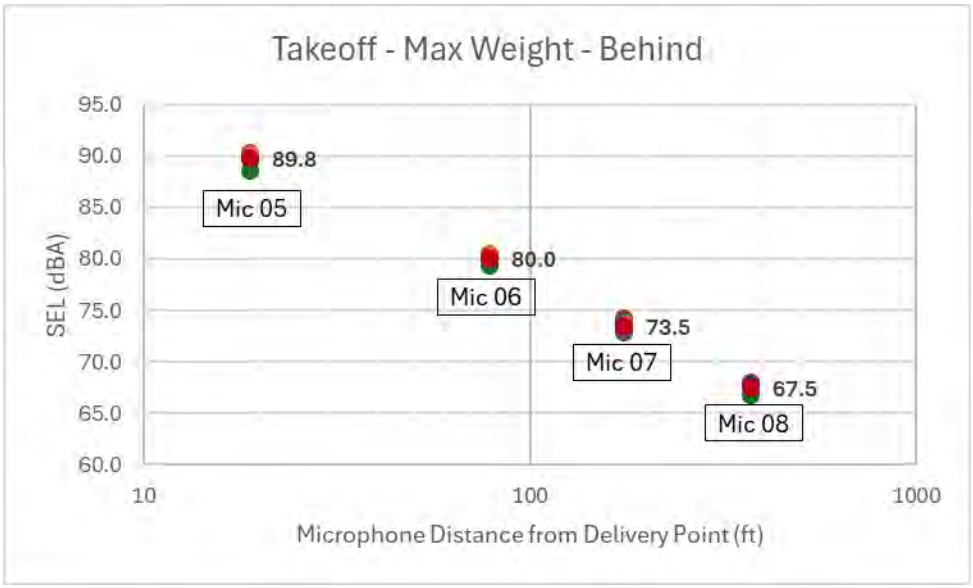


Figure 11. Range of MK30 Averaged A-Weighted SELs from Takeoff at Max Weight – Lateral

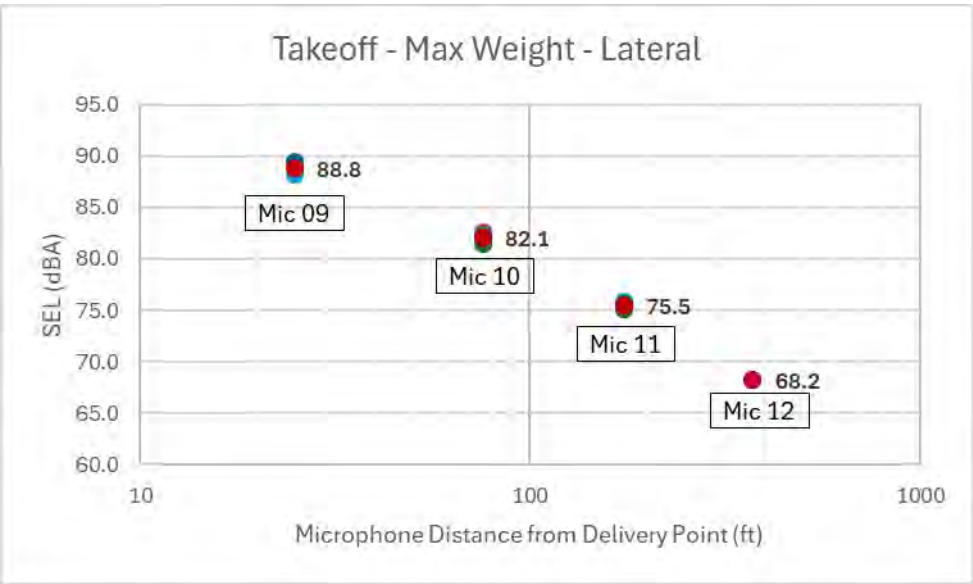


Figure 12. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Undertrack

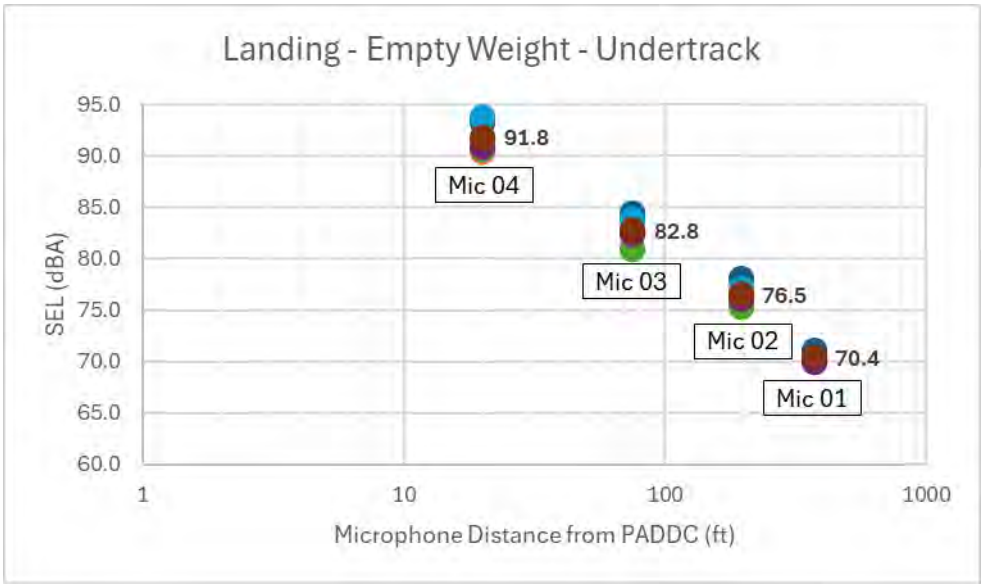


Figure 13. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Behind

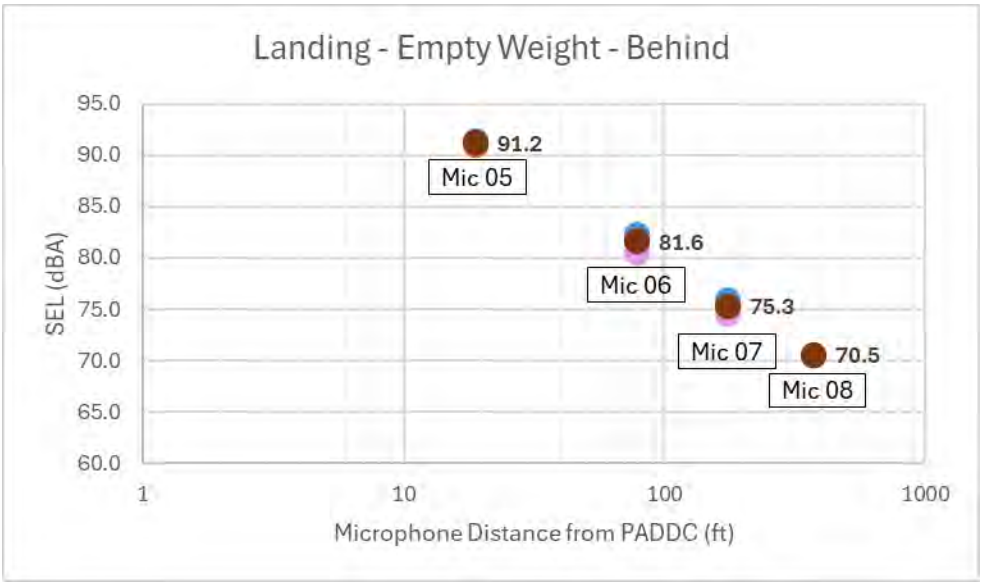


Figure 14. Range of MK30 Averaged A-Weighted SELs from Landing at Empty Weight – Lateral

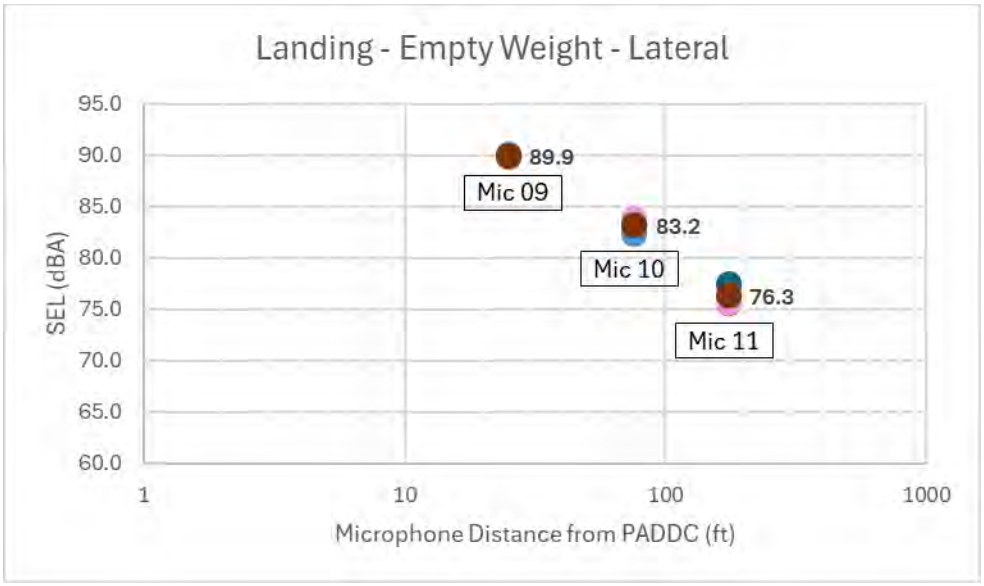


Figure 15. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Undertrack

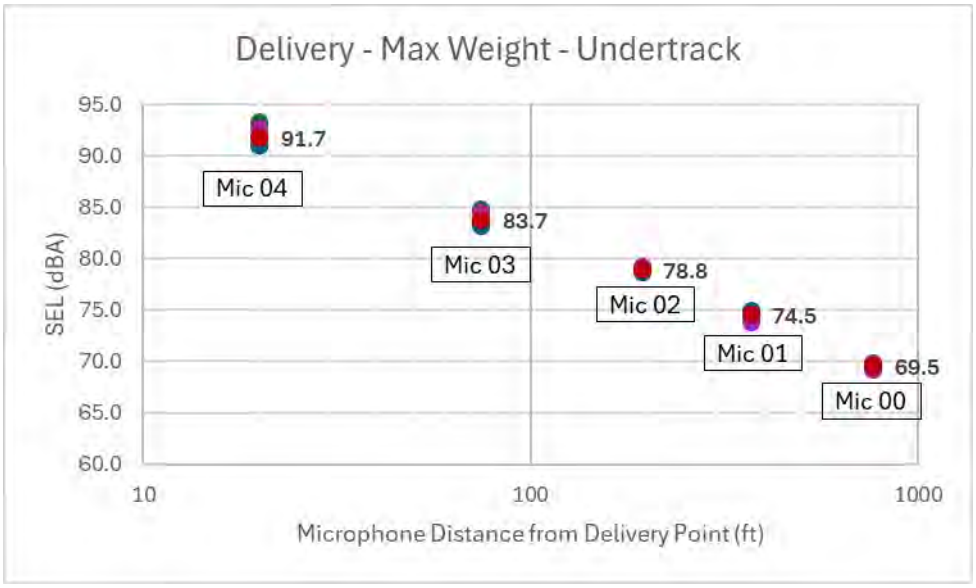


Figure 16. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Behind

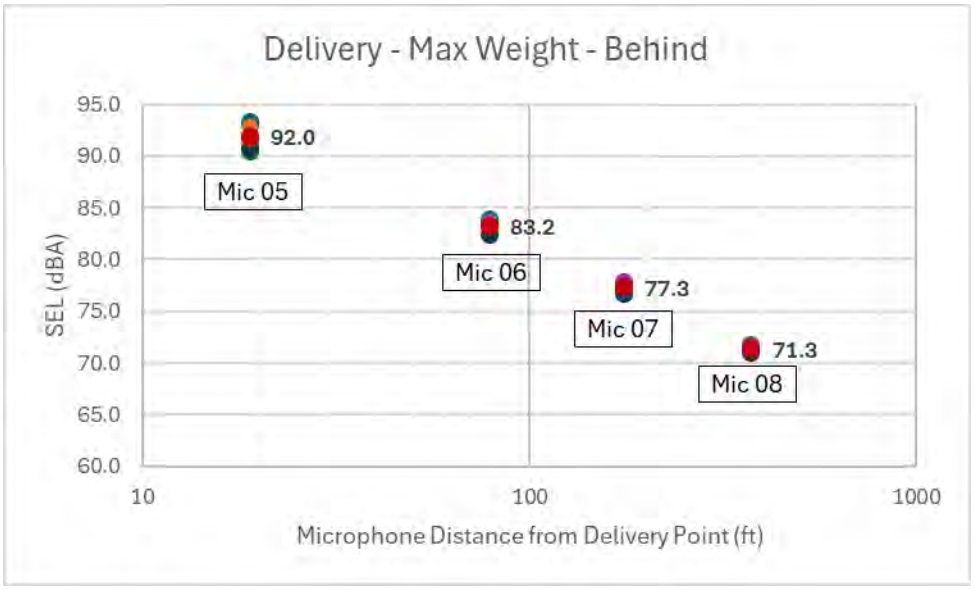
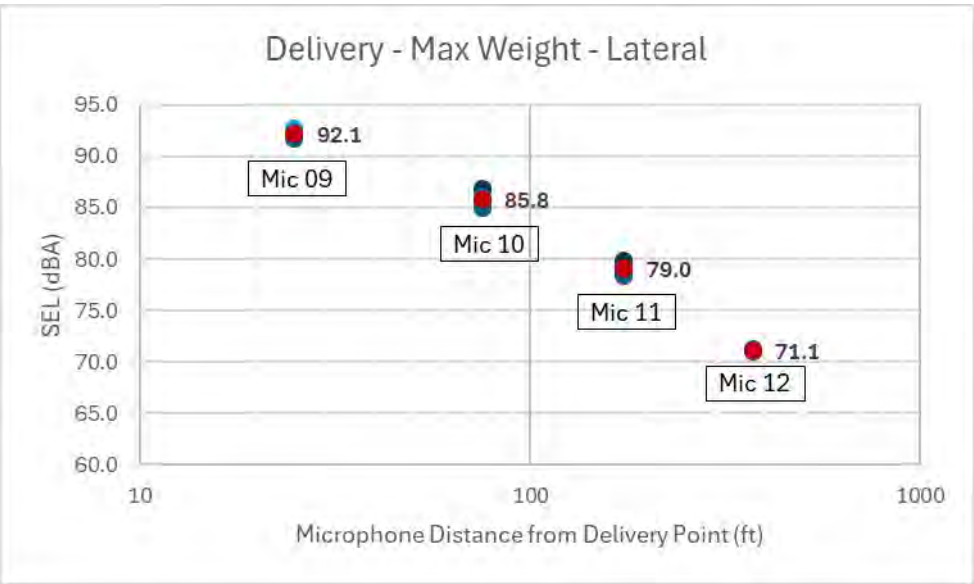


Figure 17. Range of MK30 Averaged A-Weighted SELs from Delivery at Max Weight – Lateral



The maximum SEL values from each test outline in **Table 17** were utilized to determine the composite, maximum A-weight SELs for takeoff, delivery, and landings, as shown in **Table 18** through **Table 20**. Additionally, speed- and altitude-corrected en route noise was factored in to calculate the interpolated distances to the PADDCs. **Figure 18** illustrates the noise levels and corresponding distances associated with takeoff, delivery, and landing.

Table 18. Maximum Takeoff A-Weighted SELs

Distance to PADDC (ft)	Max Weight Delivery
	SEL[1]
20	90.5
76	82.1
195	76.5
372	72.4
772	67.0
1,205[2]	63.7[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the altitude and speed corrected max weight enroute measurement.

Table 19. Maximum A-Weighted SELs - Delivery

Distance to PADDC (ft)	Max Weight Delivery
	SEL[1]
25	92.1
76	85.8
175	79.0
372	74.5
772	69.5
1,820[2]	63.7[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the altitude and speed corrected max weight enroute measurement.

Table 20. Maximum A-Weighted SELs - Landing

Distance to PADDC (ft)	Empty Weight Landing
	SEL[1]
20	91.8
76	83.2
195	76.5
375	70.5
1,074[2]	60.9[2]

Source: Prime Air, 2024; ESA, 2025.

Notes:

[1] Maximum SEL derived from Table 17.

[2] Calculated distanced to the PADDC derived from the speed and altitude corrected empty weight enroute measurement.

Figure 18. MK30 Maximum A-Weighted SELs

Using the maximum A-weight SELs from takeoff, delivery, and landing, parameters were determined to estimate SELs as a function of distance from the PADDC launch pad and delivery location. **Table 21** provides parameters to estimate SELs associated with takeoff as a function of distance from the PADDC launch pad to the receiver. **Table 22** provides parameters to estimate the SEL associated with delivery, as a function of distance from the delivery point to the receiver. **Table 23** provides parameters to estimate SELs associated with landing as a function of distance from the PADDC launch pad to the receiver. In these tables, constants "m" and "b" are components of the slope intercept linear equation y = mx +b. Constant "m" represents the slope of the line. Constant "b" represents the point at which the slope crosses the y-axis.

Table 21. Parameters for Estimating Sound Exposure Level for Takeoff versus Distance

Range for Distance (feet from launch pad)	m	b
20 to 76	-14.51	109.30
76 to 195	-13.51	107.46
195 to 372	-14.66	110.09
372 to 772	-17.08	116.32
772 to 1,205	-17.05	116.23
1,205 and greater	0.00	63.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from launch pad to receiver.

Table 22. Parameters for Estimating Sound Exposure Level for Delivery versus Distance

Range for Distance (feet from delivery point)	m	b
25 to 76	-13.18	110.56
76 to 175	-18.65	120.84
175 to 372	-13.86	110.11
372 to 772	-15.63	114.67
772 to 1,820	-15.63	114.65
1,820 and greater	0.00	63.7

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from delivery point to receiver.

Table 23. Parameters for Estimating Sound Exposure Level for Landing versus Distance

Range for Distance (feet from launch pad)	m	b
20 to 76	-14.95	111.28
76 to 195	-16.17	113.58
195 to 375	-21.10	124.86
375 to 1,074	-21.10	124.87
1,074 and greater	0.00	60.9

Source: Prime Air, 2024; ESA, 2025.

Notes: Distance is along ground from launch pad to receiver.

Appendix A:
Flight Profile Measurements

Phase of Flight	Minimum Altitude (ft AGL)	Maximum Altitude (ft AGL)	Average Altitude (ft AGL)	Minimum Duration (seconds)	Maximum Duration (seconds)	Average Duration (seconds)	Minimum True Airspeed (knots)	Maximum True Airspeed (knots)	Average True Airspeed (knots)
Takeoff and Vertical Ascent	3.2	137.4	64.9	19	24	20	0.7	9.4	5.5
Transition and Outbound Climb	132.1	201.2	160.7	58	63	60	0.8	62.4	42.9
Fixed Wing Outbound Cruise	194.7	205.9	200.5	Variable	Variable	Variable	57.6	62.6	59.7
Delivery Descent and Transition	130.6	202.8	158.1	30	36	34	0.6	60.2	36.9
Backyard Descent	17.7	135.8	77.6	18	22	19	1.5	7.7	5.4
Delivery	14.4	23.0	18.5	2	2	2	2.8	7.2	4.5
Backyard Ascent	16.4	138.6	105.8	24	30	29	1.1	8.9	7.1
Transition and Inbound Climb	133.0	203.3	160.9	57	62	60	1.4	62.5	43.0
Fixed-wing Inbound Cruise	194.8	207.8	201.2	Variable	Variable	Variable	66.0	71.0	68.7
Landing Descent and Transition	133.7	201.9	160.3	32	39	36	1.5	70.5	42.7
Vertical Descent and Landing	1.1	134.6	78.3	33	34	34	0.2	6.7	5.1

Source: Prime Air, 2024; ESA, 2025.

Appendix B:
Noise Event Tables

Table B-1. Max Weight Takeoff Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	45.2	50.6	60.1	68.1	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
772	2-1	42.3	48.6	57.2	66.2	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
772	3-1	42.4	48.4	57.8	66.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
772	4-1	42.4	48.4	57.7	66.3	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
772	5-1	47.3	49.7	59.1	67.2	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
772	6-1	44.5	50.4	59.6	67.8	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
772	7-1	46.0	51.6	60.8	69.7	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 00 Average		**44.3**	**49.7**	**58.9**	**67.4**	**200.5**	**59.7**								
Mic 01 (Undertrack)															
372	1-1	45.5	55.3	64.2	72.8	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
372	2-1	43.5	54.0	62.8	71.6	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
372	3-1	43.7	54.4	62.5	72.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
372	4-1	43.6	54.3	63.1	72.1	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
372	5-1	48.3	54.8	64.1	72.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
372	6-1	45.7	55.3	64.1	72.7	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
372	7-1	45.9	54.9	64.4	73.0	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 01 Average		**45.2**	**54.7**	**63.6**	**72.4**	**200.5**	**59.7**								
Mic 02 (Undertrack)															
195	1-1	44.2	59.0	65.2	76.5	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
195	2-1	42.0	58.7	65.0	76.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
195	3-1	42.0	59.2	65.6	77.2	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
195	4-1	42.3	58.5	63.9	76.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
195	5-1	47.8	58.8	64.1	76.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
195	6-1	45.4	59.1	64.4	76.5	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
195	7-1	44.4	58.4	65.0	76.5	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 02 Average		**44.0**	**58.8**	**64.7**	**76.5**	**200.5**	**59.7**								
Mic 03 (Undertrack)															
75	1-1	43.9	63.7	71.1	81.2	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
75	2-1	42.3	63.6	69.1	81.2	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
75	3-1	41.7	64.6	70.3	82.6	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
75	4-1	43.1	64.3	70.5	82.1	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
75	5-1	48.2	63.6	71.6	81.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
75	6-1	45.3	63.9	71.0	81.3	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
75	7-1	44.3	63.3	70.6	81.3	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 03 Average		**44.1**	**63.8**	**70.6**	**81.6**	**200.5**	**59.7**								
Mic 04 (Undertrack)															
20	1-1	48.0	72.6	82.1	90.0	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
20	2-1	47.0	72.1	81.0	89.8	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
20	3-1	45.9	74.4	81.9	92.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
20	4-1	47.4	73.3	81.8	91.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
20	5-1	51.3	72.8	82.0	90.3	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
20	6-1	49.0	71.4	81.9	88.8	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
20	7-1	47.4	72.7	81.7	90.8	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 04 Average		**48.0**	**72.8**	**81.8**	**90.5**	**200.5**	**59.7**								
Mic 05 (Behind)															
19	1-1	48.1	72.2	81.6	89.7	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
19	2-1	47.0	70.9	79.6	88.5	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
19	3-1	46.1	72.3	80.1	90.3	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
19	4-1	50.8	72.0	79.9	89.9	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
19	5-1	50.5	72.7	81.3	90.2	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
19	6-1	49.2	72.3	81.3	89.7	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
19	7-1	47.4	72.3	80.8	90.3	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 05 Average		**48.1**	**72.1**	**80.8**	**89.8**	**200.2**	**59.7**								
Mic 06 (Behind)															
79	1-1	44.7	62.5	70.7	80.0	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
79	2-1	43.4	61.7	68.8	79.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
79	3-1	42.7	61.9	69.1	79.9	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
79	4-1	43.3	62.2	69.4	80.0	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
79	5-1	48.6	62.9	70.5	80.4	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
79	6-1	46.0	62.6	70.2	80.0	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
79	7-1	45.0	62.4	70.4	80.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 06 Average		**44.8**	**62.3**	**69.9**	**80.0**	**200.5**	**59.7**								
Mic 07 (Behind)															
176	1-1	43.5	55.9	61.4	73.4	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
176	2-1	41.7	55.2	61.1	72.8	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
176	3-1	41.2	55.0	60.3	73.0	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
176	4-1	45.0	55.6	60.6	73.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
176	5-1	48.1	56.7	62.5	74.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
176	6-1	44.5	56.5	61.4	73.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
176	7-1	43.9	55.8	62.5	73.9	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 07 Average		**44.0**	**55.8**	**61.4**	**73.5**	**200.5**	**59.7**								
Mic 08 (Behind)															
375	1-1	45.0	49.7	53.5	67.1	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	No
375	2-1	43.7	49.1	53.5	66.7	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
375	3-1	45.0	49.9	54.3	67.9	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
375	4-1	44.6	49.9	54.1	67.8	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
375	5-1	51.3	51.5	55.5	69.0	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
375	6-1	47.6	51.5	55.6	68.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	No
375	7-1	50.8	54.3	58.1	72.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 08 (Average)		**44.4**	**49.6**	**54.0**	**67.5**	**200.8**	**59.7**								
Mic 09 (Lateral)															
25	1-1	51.4	70.8	80.1	88.3	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	No
25	2-1	50.6	70.6	78.8	88.3	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	No
25	3-1	49.8	71.3	79.6	89.3	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	No
25	4-1	51.4	70.4	79.0	88.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
25	5-1	53.5	71.0	79.9	88.5	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
25	6-1	52.8	70.7	79.9	88.1	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
25	7-1	50.4	71.4	80.1	89.4	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 09 (Average)		**51.6**	**71.0**	**80.0**	**88.8**	**200.2**	**59.7**								
Mic 10 (Lateral)															
76	1-1	46.1	64.4	70.3	81.9	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
76	2-1	44.5	63.8	71.0	81.4	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
76	3-1	43.7	64.5	71.0	82.5	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
76	4-1	44.4	64.4	70.2	82.2	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
76	5-1	49.6	64.6	70.0	82.1	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
76	6-1	47.5	64.6	70.7	82.0	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
76	7-1	45.6	64.2	70.9	82.2	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 10 (Average)		**45.9**	**64.4**	**70.6**	**82.1**	**200.5**	**59.7**								
Mic 11 (Lateral)															
175	1-1	44.9	58.1	63.4	75.5	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes
175	2-1	43.5	57.4	61.9	75.0	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	Yes
175	3-1	43.2	57.4	62.6	75.4	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	Yes
175	4-1	43.5	57.5	62.2	75.4	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	Yes
175	5-1	48.7	58.0	63.1	75.5	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	Yes
175	6-1	46.6	58.5	64.4	75.9	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	Yes
175	7-1	45.2	57.5	62.5	75.5	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	Yes
Mic 11 (Average)		**45.1**	**57.8**	**62.9**	**75.5**	**200.5**	**59.7**								
Mic 12 (Lateral)															
375	1-1	45.1	50.7	55.6	68.2	200.3	59.7	242	-0.7	4.3	112	6.2	49.3	56.5	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	2-1	44.8	50.8	54.5	68.4	201.5	59.7	335	-1.4	2.0	173	3.5	55.5	43.9	No
375	3-1	50.0	52.2	55.5	70.2	198.7	59.7	332	-1.9	4.1	274	7.4	59.7	36.4	No
375	4-1	45.3	50.6	53.8	68.5	202.1	59.8	339	-2.8	3.5	233	7.0	60.1	35.6	No
375	5-1	48.7	51.2	55.9	68.6	200.4	59.7	251	0.8	3.4	101	4.3	50.0	52.7	No
375	6-1	47.3	51.7	56.1	69.1	202.0	59.7	247	0.2	4.0	90	4.9	45.8	62.5	No
375	7-1	45.7	50.7	54.4	68.7	198.4	59.7	246	-0.9	4.0	121	6.2	47.8	60.2	No
Mic 12 (Average)		**45.1**	**50.7**	**55.6**	**68.2**	**200.3**	**59.7**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-2. Max Weight Delivery Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	45.2	49.6	59.3	70.0	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
772	2-1	42.3	48.9	59.4	69.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
772	3-1	42.4	49.1	57.4	69.2	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
772	4-1	42.4	48.9	57.5	69.1	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
772	5-1	47.3	49.3	59.0	69.5	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
772	6-1	44.5	49.8	60.2	69.8	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
772	7-1	46.0	50.2	60.5	70.4	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	No
Mic 00 Average		**44.0**	**49.3**	**58.8**	**69.5**	**94.6**	**6.0**								
Mic 01 (Undertrack)															
372	1-1	45.5	54.3	64.0	74.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
372	2-1	43.5	53.5	62.2	74.3	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
372	3-1	43.7	54.4	62.8	74.5	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
372	4-1	43.6	53.6	62.3	73.8	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
372	5-1	48.3	54.4	63.7	74.5	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
372	6-1	45.7	54.7	64.2	74.7	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
372	7-1	45.9	54.8	64.9	74.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 01 Average		**45.2**	**54.2**	**63.4**	**74.5**	**94.6**	**6.1**								
Mic 02 (Undertrack)															
195	1-1	44.2	58.4	64.9	78.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
195	2-1	42.0	57.9	64.9	78.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
195	3-1	42.0	58.9	64.6	79.1	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
195	4-1	42.3	58.9	64.6	79.1	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
195	5-1	47.8	58.7	65.0	78.8	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
195	6-1	45.4	58.8	65.0	78.8	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
195	7-1	44.4	58.5	64.7	78.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 02 Average		**44.0**	**58.6**	**64.8**	**78.8**	**94.6**	**6.1**								
Mic 03 (Undertrack)															
75	1-1	43.9	63.2	69.1	83.5	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
75	2-1	42.3	62.5	67.9	83.3	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
75	3-1	41.7	64.6	71.5	84.8	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
75	4-1	43.1	64.2	69.5	84.4	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
75	5-1	48.2	63.5	68.6	83.6	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
75	6-1	45.3	63.2	68.5	83.2	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
75	7-1	44.3	62.9	68.8	83.0	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 03 Average		**44.1**	**63.4**	**69.1**	**83.7**	**94.6**	**6.1**								
Mic 04 (Undertrack)															

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
20	1-1	48.0	71.1	82.9	91.4	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
20	2-1	47.0	71.0	80.8	91.8	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
20	3-1	45.9	73.1	83.7	93.3	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
20	4-1	47.4	72.4	83.8	92.6	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
20	5-1	51.3	70.8	81.8	90.9	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
20	6-1	49.0	71.0	82.0	91.0	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
20	7-1	47.4	70.8	81.9	90.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 04 Average		**48.0**	**71.5**	**82.4**	**91.7**	**94.6**	**6.1**								
Mic 05 (Behind)															
19	1-1	48.1	72.7	84.1	93.0	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
19	2-1	47.0	69.6	80.7	90.4	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
19	3-1	46.1	71.5	81.7	91.6	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
19	4-1	50.8	70.6	81.5	90.8	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
19	5-1	50.5	71.6	81.4	91.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
19	6-1	49.2	73.3	84.2	93.3	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
19	7-1	47.4	72.7	84.0	92.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 05 Average		**48.5**	**71.7**	**82.5**	**92.0**	**94.6**	**6.1**								
Mic 06 (Behind)															
79	1-1	44.7	63.6	70.4	83.9	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
79	2-1	43.4	62.2	68.8	83.0	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
79	3-1	42.7	63.1	68.9	83.2	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
79	4-1	43.3	62.1	67.8	82.3	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
79	5-1	48.6	63.0	68.4	83.2	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
79	6-1	46.0	63.4	69.1	83.4	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
79	7-1	45.0	63.5	69.8	83.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 06 Average		**44.8**	**63.0**	**69.0**	**83.2**	**94.6**	**6.1**								
Mic 07 (Behind)															
176	1-1	43.5	57.3	62.5	77.7	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
176	2-1	41.7	56.9	61.1	77.7	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
176	3-1	41.2	57.6	62.0	77.7	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
176	4-1	45.0	56.5	62.2	76.7	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
176	5-1	48.1	57.0	61.1	77.1	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
176	6-1	44.5	57.1	62.0	77.1	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
176	7-1	43.9	57.1	62.8	77.3	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 07 Average		**44.0**	**57.1**	**61.9**	**77.3**	**94.6**	**6.1**								
Mic 08 (Behind)															
375	1-1	45.0	50.9	56.9	71.2	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
375	2-1	43.7	50.8	55.3	71.6	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
375	3-1	45.0	51.4	54.4	71.5	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	4-1	44.6	50.7	55.0	70.9	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
375	5-1	51.3	51.1	56.1	71.3	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
375	6-1	47.6	51.6	56.0	71.6	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	No
375	7-1	50.8	51.7	55.1	71.8	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	No
Mic 08 Average		**44.6**	**51.0**	**55.4**	**71.3**	**97.0**	**6.0**								
Mic 09 (Lateral)															
25	1-1	51.4	71.5	83.1	91.8	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	No
25	2-1	50.6	71.1	82.4	91.9	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	No
25	3-1	49.8	70.8	82.3	90.9	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	No
25	4-1	51.4	72.7	83.9	92.9	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	No
25	5-1	53.5	73.5	84.4	93.6	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
25	6-1	52.8	72.7	83.2	92.7	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
25	7-1	50.4	71.4	82.4	91.6	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 09 Average		**51.6**	**72.1**	**82.8**	**92.1**	**92.0**	**6.7**								
Mic 10 (Lateral)															
76	1-1	46.1	65.1	71.0	85.4	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
76	2-1	44.5	65.1	71.1	86.0	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
76	3-1	43.7	64.9	71.2	85.0	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
76	4-1	44.4	66.3	71.7	86.4	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
76	5-1	49.6	66.6	72.6	86.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
76	6-1	47.5	65.9	70.9	85.9	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
76	7-1	45.6	64.8	70.4	85.0	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 10 Average		**45.9**	**65.5**	**71.3**	**85.8**	**94.6**	**6.1**								
Mic 11 (Lateral)															
175	1-1	44.9	58.5	63.9	78.8	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
175	2-1	43.5	58.4	64.1	79.2	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	Yes
175	3-1	43.2	58.2	63.2	78.4	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	Yes
175	4-1	43.5	59.3	63.4	79.5	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	Yes
175	5-1	48.7	59.7	65.2	79.8	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	Yes
175	6-1	46.6	59.0	63.2	79.0	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	Yes
175	7-1	45.2	58.2	62.8	78.4	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 11 Average		**45.1**	**58.8**	**63.7**	**79.0**	**94.6**	**6.1**								
Mic 12 (Lateral)															
375	1-1	45.1	50.9	55.7	71.2	96.6	6.0	127	-0.5	4.1	123	6.0	49.1	56.6	Yes
375	2-1	44.8	53.3	58.9	74.1	95.5	5.0	84	0.0	1.2	260	3.7	55.6	43.5	No
375	3-1	50.0	53.6	57.6	73.7	96.7	5.6	31	-3.0	5.0	283	7.4	59.8	36.3	No
375	4-1	45.3	52.0	57.1	72.2	99.4	7.5	271	-2.6	4.6	222	6.2	60.3	35.2	No
375	5-1	48.7	51.6	57.3	71.7	90.3	5.5	115	-0.6	2.9	92	4.3	50.6	52.3	No
375	6-1	47.3	52.1	56.0	72.1	89.3	6.1	115	-1.4	4.5	93	4.9	45.8	62.8	No

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
375	7-1	45.7	50.8	55.5	70.9	94.7	7.3	117	-0.2	4.2	112	6.2	47.9	59.7	Yes
Mic 12 Average		**45.4**	**50.8**	**55.6**	**71.1**	**95.6**	**6.6**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-3. Empty Weight Landing Measurements

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 00 (Undertrack)															
772	1-1	42.4	48.3	55.7	66.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
772	2-1	42.3	46.4	51.9	64.2	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
772	3-1	42.3	47.6	55.8	65.8	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
772	4-1	44.3	49.0	55.7	67.2	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
772	5-1	47.6	48.3	53.8	66.2	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
772	6-1	43.3	48.1	55.9	66.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 00 Average		-	-	-	-	-	-								
Mic 01 (Undertrack)															
372	1-1	45.0	53.2	60.4	71.1	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
372	2-1	43.6	52.5	59.3	70.3	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
372	3-1	43.5	52.4	59.8	70.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
372	4-1	44.9	52.9	59.5	71.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
372	5-1	47.9	52.3	58.4	70.2	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
372	6-1	44.4	52.0	60.0	69.9	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 01 Average		**44.3**	**52.6**	**59.9**	**70.4**	**200.7**	**68.7**								
Mic 02 (Undertrack)															
195	1-1	42.0	60.1	63.1	78.0	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
195	2-1	42.1	58.5	62.2	76.3	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
195	3-1	42.0	58.9	62.4	77.1	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
195	4-1	43.5	58.8	62.9	77.0	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
195	5-1	47.0	57.5	62.2	75.3	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
195	6-1	43.5	58.1	63.0	76.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 02 Average		**43.6**	**58.6**	**62.7**	**76.5**	**201.0**	**68.7**								
Mic 03 (Undertrack)															
75	1-1	41.9	66.5	70.7	84.4	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
75	2-1	42.0	64.6	68.7	82.4	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
75	3-1	43.0	65.7	71.2	83.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
75	4-1	43.5	65.7	70.4	83.9	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
75	5-1	46.0	63.1	67.9	81.0	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
75	6-1	43.4	64.5	69.7	82.4	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 03 Average		**43.4**	**64.9**	**69.5**	**82.8**	**201.0**	**68.7**								
Mic 04 (Undertrack)															
20	1-1	46.1	75.4	83.1	93.3	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
20	2-1	46.1	72.7	80.6	90.5	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
20	3-1	45.7	75.0	83.5	93.2	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
20	4-1	46.5	75.6	84.1	93.8	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
20	5-1	49.0	72.8	81.0	90.7	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
20	6-1	46.7	73.0	80.3	90.9	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 04 Average		**46.9**	**73.9**	**81.8**	**91.8**	**201.0**	**68.7**								
Mic 05 (Behind)															
19	1-1	52.0	72.6	80.1	90.6	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
19	2-1	46.5	73.2	81.3	91.0	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
19	3-1	45.8	72.3	79.9	90.5	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
19	4-1	51.9	77.4	91.2	95.6	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
19	5-1	49.3	73.5	81.5	91.4	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
19	6-1	59.4	72.4	81.7	90.3	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 05 Average		**47.9**	**73.4**	**81.4**	**91.2**	**201.0**	**68.7**								
Mic 06 (Behind)															
79	1-1	42.8	63.8	67.8	81.7	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
79	2-1	43.0	64.2	68.0	82.0	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
79	3-1	42.7	63.7	69.2	81.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
79	4-1	43.7	63.3	68.2	81.5	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
79	5-1	47.2	64.4	68.8	82.3	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
79	6-1	44.0	62.5	66.8	80.5	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 06 Average		**44.1**	**63.6**	**67.9**	**81.6**	**201.0**	**68.7**								
Mic 07 (Behind)															
176	1-1	41.2	57.5	61.6	75.5	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
176	2-1	43.4	57.6	61.4	75.4	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
176	3-1	41.4	57.4	62.0	75.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
176	4-1	43.8	56.9	60.1	75.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
176	5-1	46.8	58.0	62.4	75.8	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
176	6-1	43.2	56.6	60.9	74.5	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 07 Average		**43.7**	**57.3**	**61.3**	**75.3**	**201.0**	**68.7**								
Mic 08 (Behind)															
375	1-1	43.6	50.4	53.6	68.3	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
375	2-1	44.7	52.8	57.4	70.5	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
375	3-1	46.7	55.7	57.4	73.9	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
375	4-1	46.7	65.6	80.6	83.8	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
375	5-1	52.1	51.2	53.9	69.0	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
375	6-1	48.6	69.8	84.7	87.7	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 08 Average		**44.7**	**52.8**	**57.4**	**70.5**	**200.6**	**68.7**								
Mic 09 (Lateral)															
25	1-1	48.3	72.2	80.6	90.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
25	2-1	50.1	72.0	79.7	89.8	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
25	3-1	49.7	72.4	80.8	90.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No

Distance to PADDC (ft)	Test#	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
25	4-1	50.1	71.7	81.1	89.9	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
25	5-1	49.8	72.2	80.2	90.1	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
25	6-1	49.7	73.4	81.5	91.4	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 09 Average		**50.0**	**72.0**	**80.4**	**89.9**	**201.2**	**68.7**								
Mic 10 (Lateral)															
76	1-1	43.6	65.3	70.0	83.2	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
76	2-1	44.8	65.1	69.1	82.9	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
76	3-1	43.8	65.4	69.7	83.6	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
76	4-1	44.8	65.1	69.2	83.3	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
76	5-1	47.5	64.5	70.0	82.4	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	Yes
76	6-1	44.7	65.9	70.8	83.8	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 10 Average		**45.2**	**65.2**	**70.0**	**83.2**	**201.1**	**68.7**								
Mic 11 (Lateral)															
175	1-1	43.2	59.5	63.3	77.4	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	Yes
175	2-1	43.4	57.8	62.5	75.6	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	Yes
175	3-1	43.2	58.3	61.2	76.4	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
175	4-1	44.8	58.2	61.1	76.4	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	Yes
175	5-1	47.5	57.2	60.4	75.1	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
175	6-1	44.2	57.8	61.5	75.8	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	Yes
Mic 11 Average		**43.9**	**58.3**	**62.1**	**76.3**	**200.9**	**68.7**								
Mic 12 (Lateral)															
375	1-1	44.2	51.1	55.1	69.1	202.5	68.7	24	-3.1	3.4	309	6.8	51.5	61.3	No
375	2-1	47.9	51.9	55.3	69.7	200.6	68.7	166	0.3	1.2	298	6.0	62.4	33.0	No
375	3-1	58.2	54.2	56.9	72.4	201.7	68.8	23	-4.1	5.2	321	7.8	61.4	34.7	No
375	4-1	45.5	50.9	55.1	69.1	201.4	68.7	38	-2.4	3.4	271	5.2	59.9	44.6	No
375	5-1	51.3	58.8	72.3	76.6	201.5	68.7	152	-1.2	4.8	118	5.6	42.6	83.0	No
375	6-1	44.6	50.1	52.8	68.0	198.9	68.7	225	-0.3	1.0	108	2.1	56.8	51.1	No
Mic 12 Average		**-**	**-**	**-**	**-**	**-**	**-**								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-4. Max Weight En Route Measurements

Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 09 (Lateral)																	
25	1-1	17.5	117.1	46.7	56.1	60.3	65.7	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
25	1-2	6.1	117.7	46.7	55.9	60.1	65.4	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
25	2-1	9.5	117.6	45.8	55.7	59.7	65.3	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
25	2-2	33.8	120.4	45.8	56.1	60.1	65.1	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
25	3-1	43.8	122.8	46.3	55.7	59.7	65.3	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
25	3-2	5.5	115.3	46.3	55.9	60.0	65.4	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
25	4-1	24.8	119.7	47.8	56.0	60.4	66.0	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes
25	4-2	13.4	117.6	47.8	55.2	59.5	65.2	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
25	5-1	17.1	118.2	46.9	55.5	59.7	65.5	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
25	5-2	7.9	116.4	46.9	55.9	60.1	65.4	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
25	6-1	16.9	117.3	50.9	57.7	61.8	66.8	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
25	6-2	43.2	120.2	50.9	57.5	61.7	67.5	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 09 Average		20.0	118.4	47.4	56.1	60.3	65.7	122.5	60.8								
Mic 10 (Lateral)																	
76	1-1	54.2	127.8	50.0	57.0	61.3	66.5	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
76	1-2	50.9	128.1	50.0	56.1	60.2	65.7	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
76	2-1	52.6	128.5	49.0	56.2	60.1	65.7	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
76	2-2	60.6	130.5	49.0	56.8	60.7	65.8	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
76	3-1	69.3	134.0	50.2	56.4	60.5	65.9	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
76	3-2	49.6	125.4	50.2	56.2	60.2	65.8	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
76	4-1	57.5	130.5	50.5	56.4	61.2	66.4	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes
76	4-2	52.3	128.1	50.5	55.6	59.7	65.6	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
76	5-1	54.1	128.9	49.9	56.1	60.5	66.1	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
76	5-2	52.7	127.5	49.9	56.7	61.0	66.2	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
76	6-1	51.1	126.8	47.5	57.4	61.6	66.5	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
76	6-2	66.8	130.5	47.5	57.1	61.2	67.1	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 10 Average		56.0	128.9	49.5	56.5	60.7	66.1	122.5	60.8								
Mic 11 (Lateral)																	
175	1-1	152.4	191.4	44.9	53.3	57.1	62.9	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	Yes
175	1-2	150.4	190.9	44.9	53.5	57.3	63.0	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	Yes
175	2-1	151.7	191.7	43.7	53.3	57.4	62.8	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	Yes
175	2-2	154.5	192.9	43.7	53.8	57.4	62.8	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	Yes
175	3-1	158.9	196.0	43.4	52.8	56.5	62.4	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	Yes
175	3-2	149.1	188.4	43.4	53.4	57.2	62.9	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	Yes
175	4-1	154.2	193.6	43.3	53.2	57.6	63.2	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	Yes

Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
175	4-2	151.2	191.1	43.3	51.9	55.7	61.9	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	Yes
175	5-1	151.8	191.6	44.3	53.1	57.0	63.1	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	Yes
175	5-2	152.0	191.2	44.3	53.0	56.9	62.6	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	Yes
175	6-1	148.7	188.6	46.5	54.5	58.3	63.6	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	Yes
175	6-2	157.5	193.4	46.5	54.2	57.8	64.2	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	Yes
Mic 11 Average		152.7	191.7	44.4	53.3	57.2	62.9	122.5	60.8								
Mic 12 (Lateral)																	
375	1-1	351.5	370.1	45.2	48.6	50.0	58.1	122.2	60.2	77	0.6	1.6	96.6	4.4	53.4	53.8	No
375	1-2	349.8	369.0	45.2	48.8	50.3	58.3	122.9	60.1	255	-0.4	2.9	82.3	4.1	53.2	53.6	No
375	2-1	351.0	370.1	44.2	48.2	49.3	57.7	122.4	61.6	77	0.0	3.3	77.3	5.8	48.4	62.8	No
375	2-2	352.2	370.6	44.2	49.2	50.5	58.2	121.0	60.9	252	-2.8	3.6	123.5	5.8	49.3	60.9	No
375	3-1	354.8	372.9	44.4	48.2	49.8	57.7	121.8	60.1	76	1.3	1.7	132.1	3.5	54.5	52.2	No
375	3-2	348.6	367.1	44.4	48.7	49.9	58.3	121.3	60.8	255	1.7	2.2	306.5	3.5	54.9	51.3	No
375	4-1	352.7	371.6	44.3	48.5	50.1	58.5	122.3	61.3	74	2.1	2.1	170.8	3.9	56.7	48.7	No
375	4-2	350.5	369.5	44.3	47.8	48.5	57.8	125.5	61.7	258	-1.3	1.9	214.0	4.1	56.1	49.2	No
375	5-1	350.7	369.7	45.2	50.4	51.5	60.4	123.0	60.8	78	2.0	3.3	116.9	4.7	50.9	59.1	No
375	5-2	351.4	370.0	45.2	52.0	52.9	61.5	122.3	60.6	254	-2.2	2.7	131.5	4.7	51.1	58.6	No
375	6-1	347.6	366.4	49.6	50.2	51.4	59.3	123.6	61.4	74	1.5	1.6	191.3	4.1	65.5	53.5	No
375	6-2	354.0	371.3	49.6	50.5	51.6	60.5	121.5	59.9	256	-0.6	3.7	245.7	7.0	65.3	56.7	No
Mic 12 Average		351.2	369.9	-	-	-	-	-	-								

Source: Prime Air, 2024; ESA, 2025.

Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

Table B-5. Empty Weight En Route Measurements

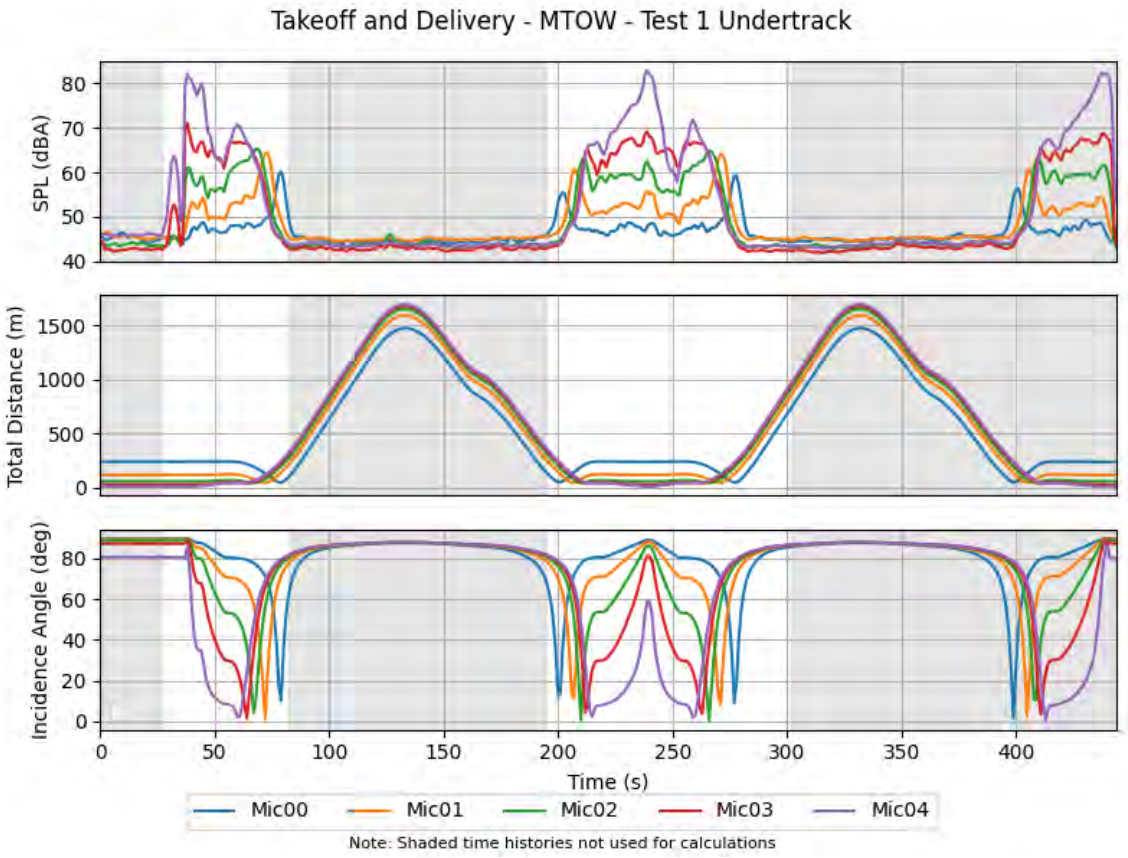
Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
Mic 09 (Lateral)																	
25	1-1	0.4	101.8	50.8	57.5	62.1	67.1	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
25	1-2	17.6	103.4	50.8	57.0	61.6	66.6	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
25	2-1	44.8	94.2	50.1	59.3	63.6	68.4	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes
25	2-2	5.7	81.4	50.1	58.6	63.3	68.1	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
25	3-1	36.0	107.7	46.8	56.9	61.2	66.5	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
25	3-2	20.1	103.3	46.8	56.1	60.8	66.1	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
25	4-1	43.9	110.3	62.9	62.9	64.3	73.3	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	No
25	4-2	52.4	112.5	62.9	64.8	65.9	74.3	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
25	5-1	3.6	96.7	47.0	57.5	61.7	66.5	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
25	5-2	8.5	94.9	47.0	57.7	62.7	67.7	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
25	6-1	48.9	110.8	47.6	55.6	60.5	66.8	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	Yes
25	6-2	9.2	100.6	47.6	55.2	60.1	65.6	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	Yes
25	7-1	22.4	104.3	50.7	57.1	61.5	67.1	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
25	7-2	23.1	105.2	50.7	56.9	61.3	66.4	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 09 Average		18.4	99.3	49.2	57.2	61.8	67.0	103.1	60.7								
Mic 10 (Lateral)																	
76	1-1	50.7	113.7	44.9	56.6	61.1	66.1	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
76	1-2	54.7	115.6	44.9	56.1	60.8	65.6	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
76	2-1	69.0	107.9	44.5	58.3	62.6	67.3	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes
76	2-2	51.4	96.1	44.5	57.6	62.4	67.2	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
76	3-1	63.0	119.5	51.1	58.0	62.3	67.6	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
76	3-2	56.0	115.8	51.1	56.9	61.2	66.9	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
76	4-1	66.9	121.3	49.1	56.4	60.9	66.8	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	Yes
76	4-2	72.9	123.5	49.1	58.0	62.4	67.5	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
76	5-1	50.5	109.1	50.6	58.6	62.5	67.6	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
76	5-2	52.4	108.1	50.6	58.6	63.5	68.6	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
76	6-1	70.0	122.6	51.7	56.9	61.6	68.1	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	Yes
76	6-2	53.1	113.4	51.7	56.2	60.7	66.7	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	No
76	7-1	56.8	116.6	45.3	56.2	60.7	66.2	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
76	7-2	55.9	116.8	45.3	56.0	60.7	65.6	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 10 Average		57.8	112.8	47.1	57.1	61.7	66.9	103.0	60.6								
Mic 11 (Lateral)																	
175	1-1	150.5	181.7	44.5	53.3	57.1	62.8	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	Yes
175	1-2	152.3	183.2	44.5	52.6	56.7	62.2	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	Yes
175	2-1	158.0	178.4	43.8	54.4	57.9	63.5	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	Yes

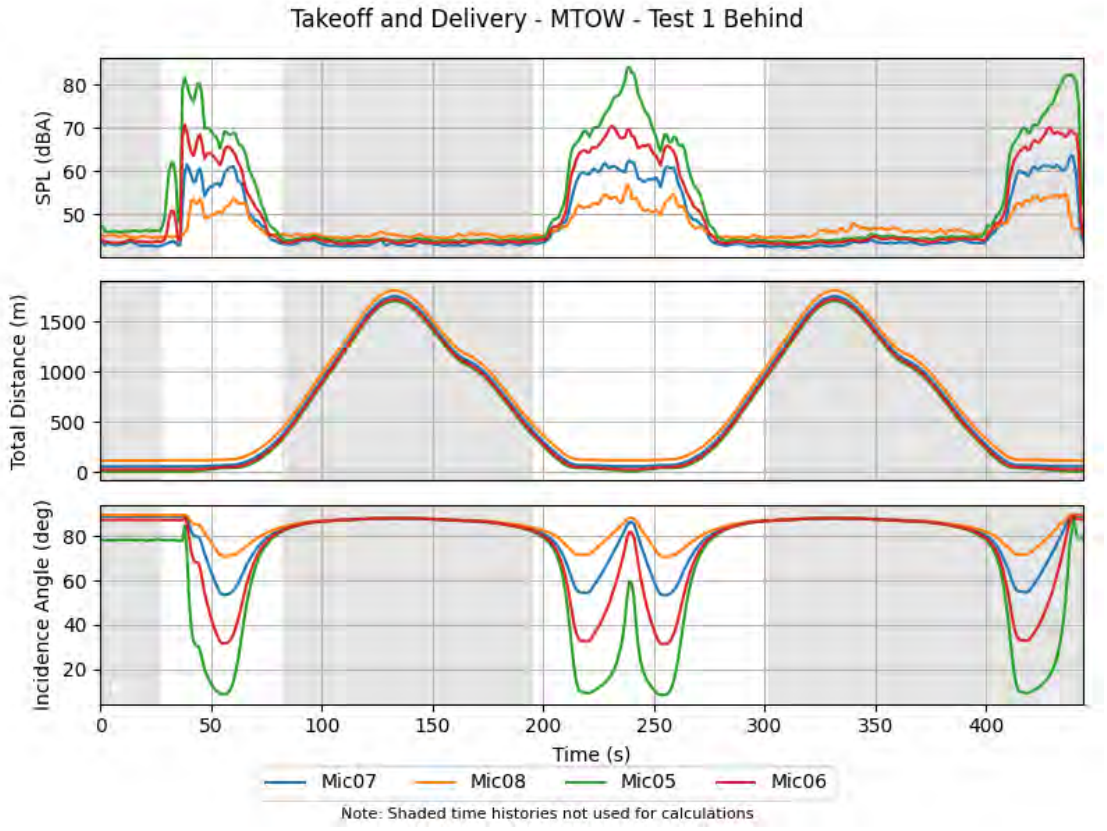
Distance to PADDC (ft)	Test#	Undertrack Distance (ft)	POCA Slant (ft)	Ambient (dBA)	LAEQ (dBA)	LMAX (dBA)	SEL (dBA)	Average Altitude (ft)	Average True Air Speed (kts)	Median Drone Heading (deg.)	Cross Wind (kts)	Wind Speed (kts)	Wind Direction (deg.)	Wind Gust Speed (kts)	Temp (°f)	Relative Humidity (%)	Valid
175	2-2	150.9	171.3	43.8	53.6	57.3	63.2	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	Yes
175	3-1	155.1	185.4	44.9	53.7	57.4	63.3	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
175	3-2	153.7	184.1	44.9	53.0	56.8	63.0	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
175	4-1	155.6	185.7	43.0	52.5	56.6	62.9	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	Yes
175	4-2	159.4	188.0	43.0	53.8	57.9	63.3	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
175	5-1	150.3	178.7	45.7	54.0	57.7	63.1	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	Yes
175	5-2	151.6	178.6	45.7	54.0	58.3	64.0	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	Yes
175	6-1	158.5	187.6	45.2	53.5	57.5	64.7	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	No
175	6-2	152.5	182.5	45.2	51.8	55.7	62.2	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	Yes
175	7-1	153.2	184.0	44.7	53.0	56.7	63.0	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	Yes
175	7-2	152.9	184.1	44.7	52.6	56.6	62.2	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	Yes
Mic 11 Average		152.8	180.8	44.6	53.2	57.1	62.9	103.2	60.8								
Mic 12 (Lateral)																	
375	1-1	350.1	364.5	45.5	48.7	49.9	58.2	107.2	59.8	76	1.8	4.0	102.4	4.5	45.3	62.8	No
375	1-2	351.1	365.6	45.5	48.4	49.4	57.9	107.6	59.7	254	-1.2	3.8	93.1	4.5	45.5	62.2	No
375	2-1	353.6	363.2	45.7	49.7	51.1	58.7	90.4	61.9	76	2.4	2.4	177.4	4.1	65.1	38.7	No
375	2-2	350.3	359.6	45.7	49.5	50.7	59.0	90.1	60.4	255	-2.0	3.0	212.8	4.1	65.1	38.4	No
375	3-1	352.0	366.4	46.7	49.1	50.2	58.7	110.3	61.5	68	-5.7	5.9	326.2	10.9	62.2	34.6	No
375	3-2	352.7	366.9	46.7	50.4	51.8	60.4	109.7	61.1	261	6.0	7.5	312.6	10.9	62.8	35.6	No
375	4-1	351.3	365.6	44.6	49.2	50.2	59.7	107.0	62.4	68	-3.1	4.3	300.5	11.1	63.3	34.1	No
375	4-2	354.0	367.8	44.6	49.6	51.1	59.2	105.2	60.3	264	6.4	6.4	353.4	10.7	63.9	33.9	No
375	5-1	349.8	362.9	49.7	49.2	50.4	58.2	104.3	60.6	69	-2.0	2.2	319.7	9.9	61.3	37.8	No
375	5-2	350.9	363.4	49.7	55.9	56.7	65.9	102.3	60.8	257	3.0	3.0	341.0	9.9	61.7	37.4	No
375	6-1	354.1	367.7	49.1	51.0	52.4	62.1	106.5	60.7	71	-2.5	4.4	34.0	9.1	61.3	37.3	No
375	6-2	352.0	366.0	49.1	48.7	49.5	59.2	107.7	63.2	258	2.2	2.6	21.8	7.4	61.0	37.0	No
375	7-1	351.7	366.1	45.2	49.5	50.5	59.5	107.2	59.6	78	1.7	4.2	102.3	4.7	45.5	61.5	No
375	7-2	351.6	366.2	45.2	48.3	49.5	57.9	107.9	59.9	252	-2.1	3.9	104.6	4.7	45.7	61.3	No
Mic 12 Average		-	-	-	-	-	-	-	-								

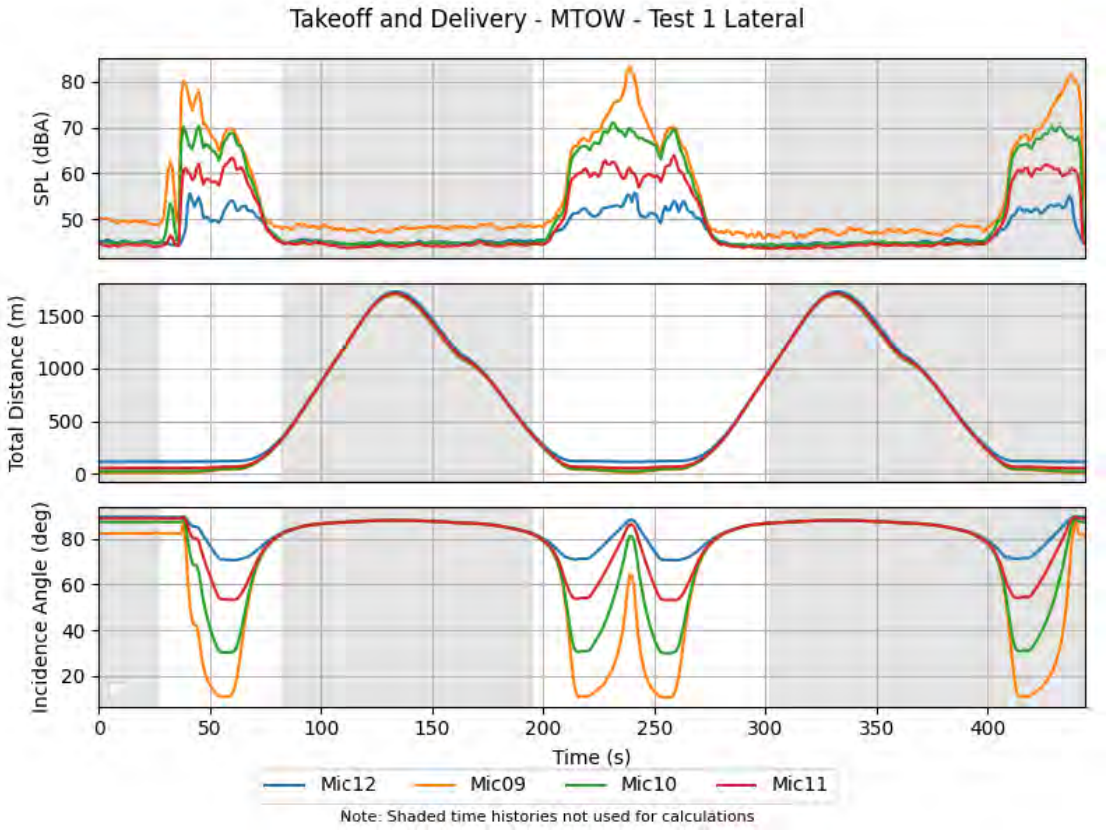
Source: Prime Air, 2024; ESA, 2025.

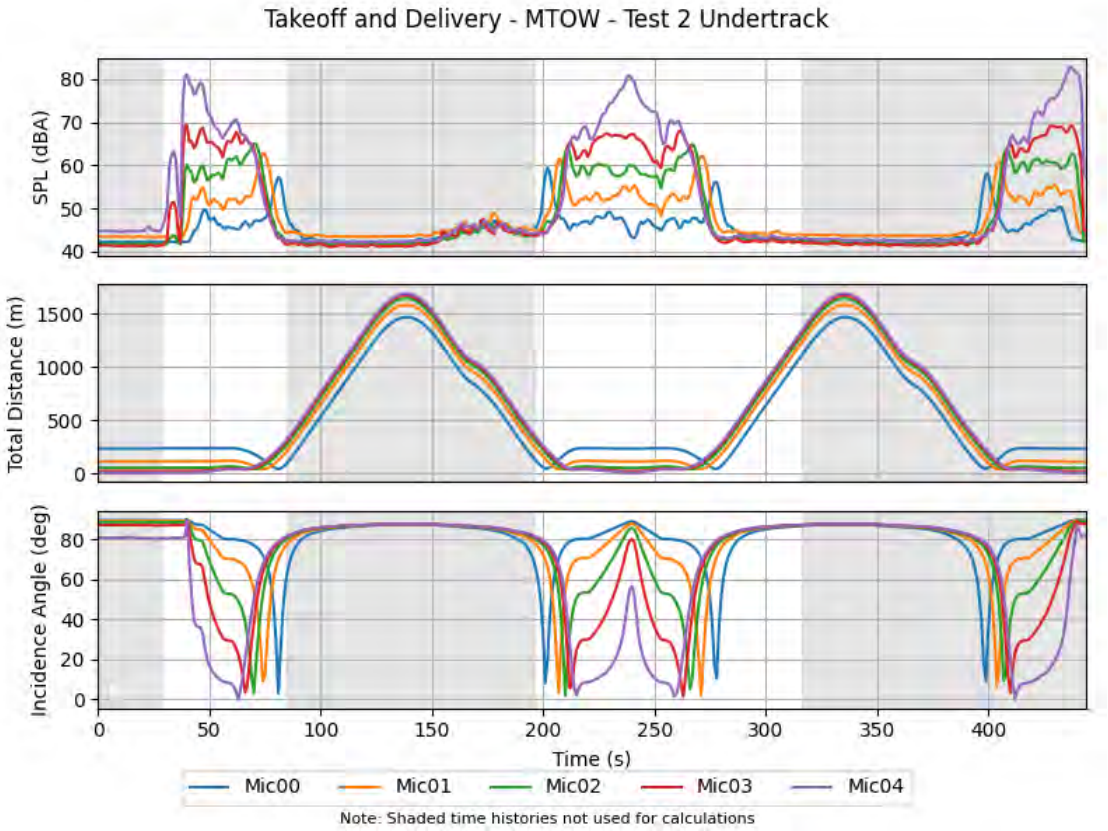
Notes: Greyed out cells we determined to not be valid measurements and were not included in SEL calculations.

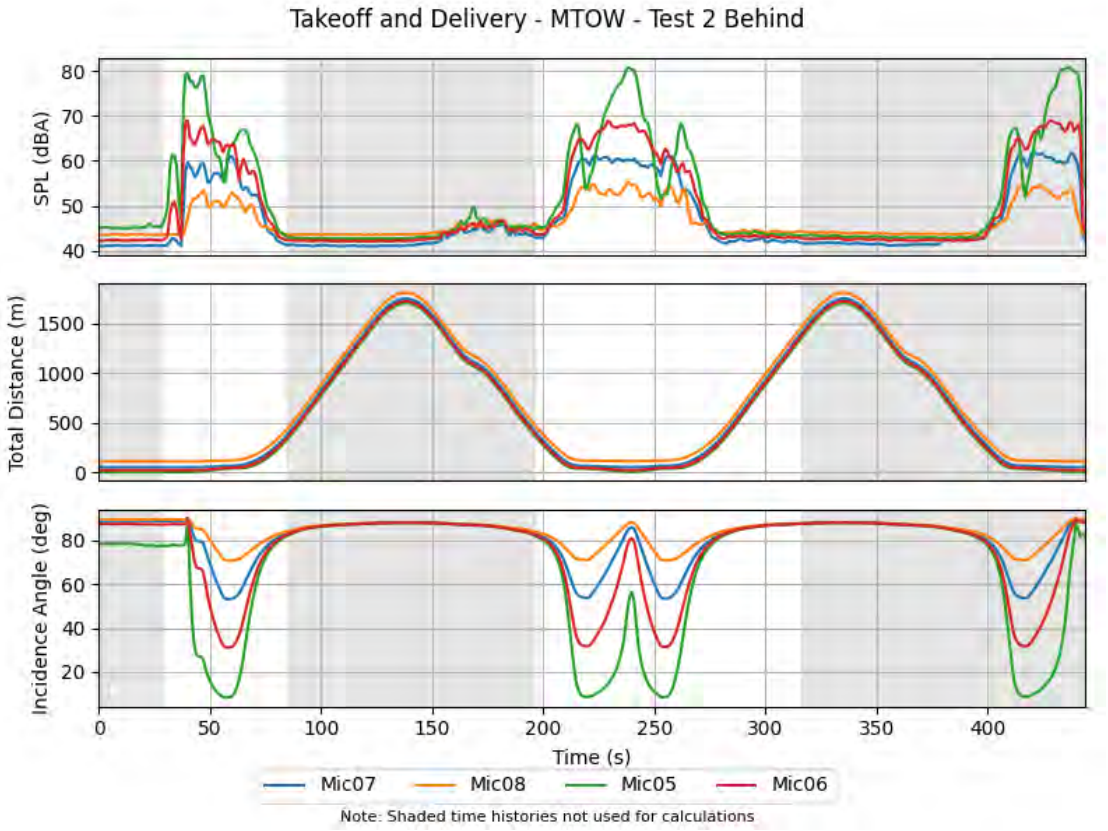
Appendix C:
Time History Graphs

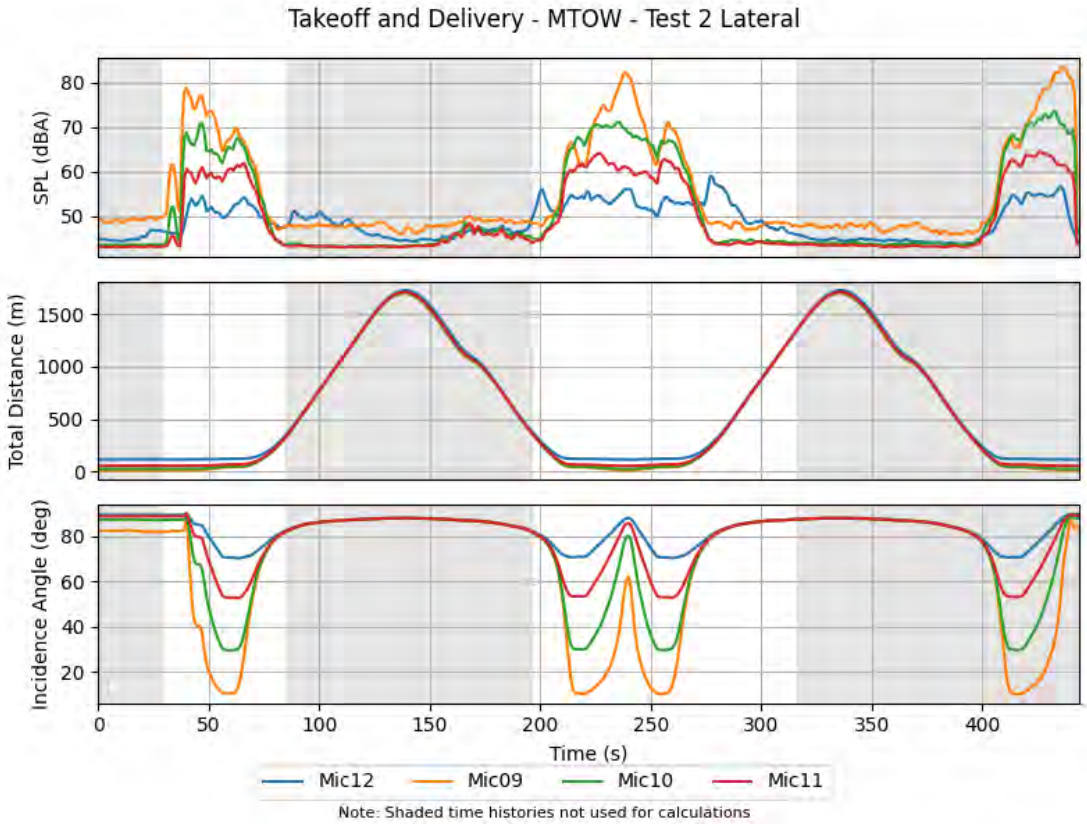


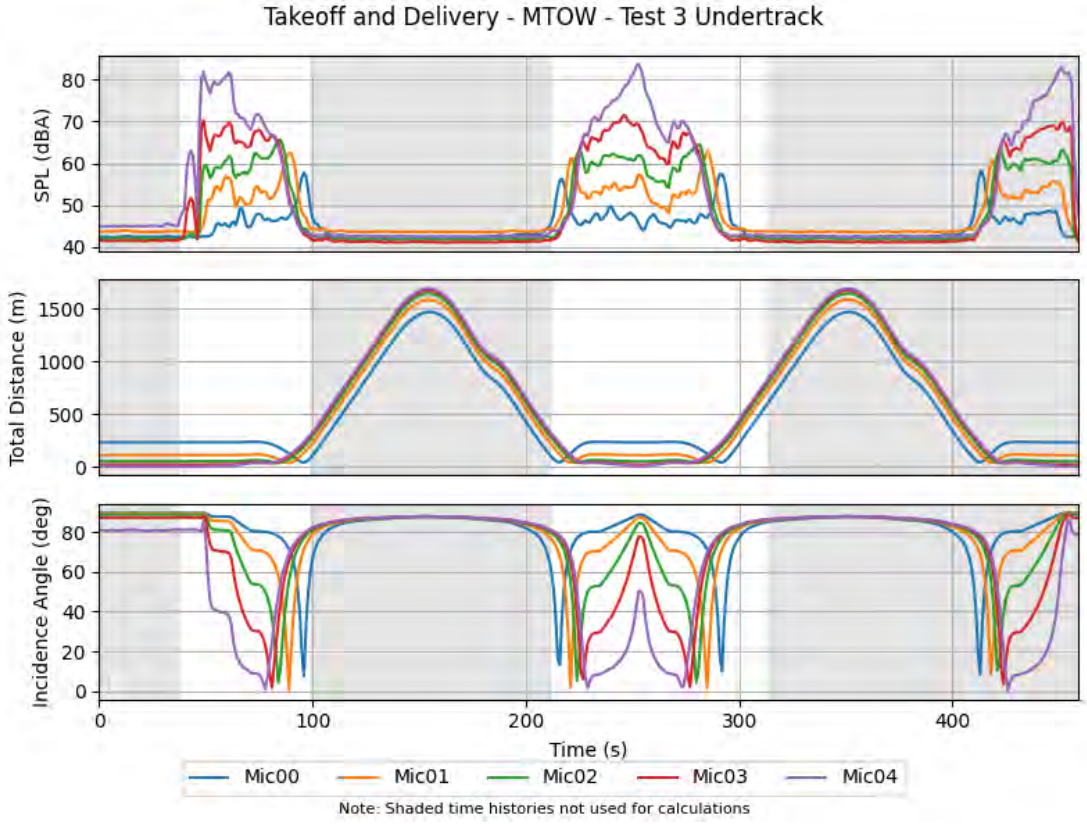

Takeoff and Delivery - MTOW - Test 1 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

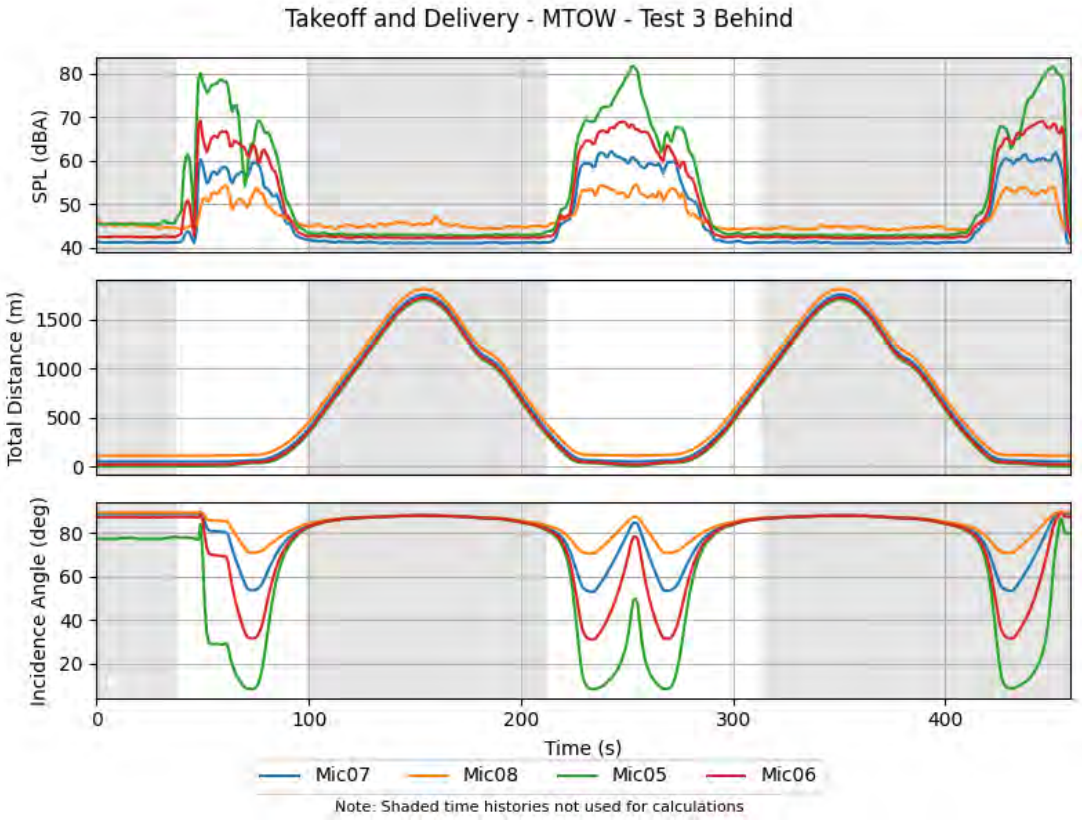

Takeoff and Delivery - MTOW - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

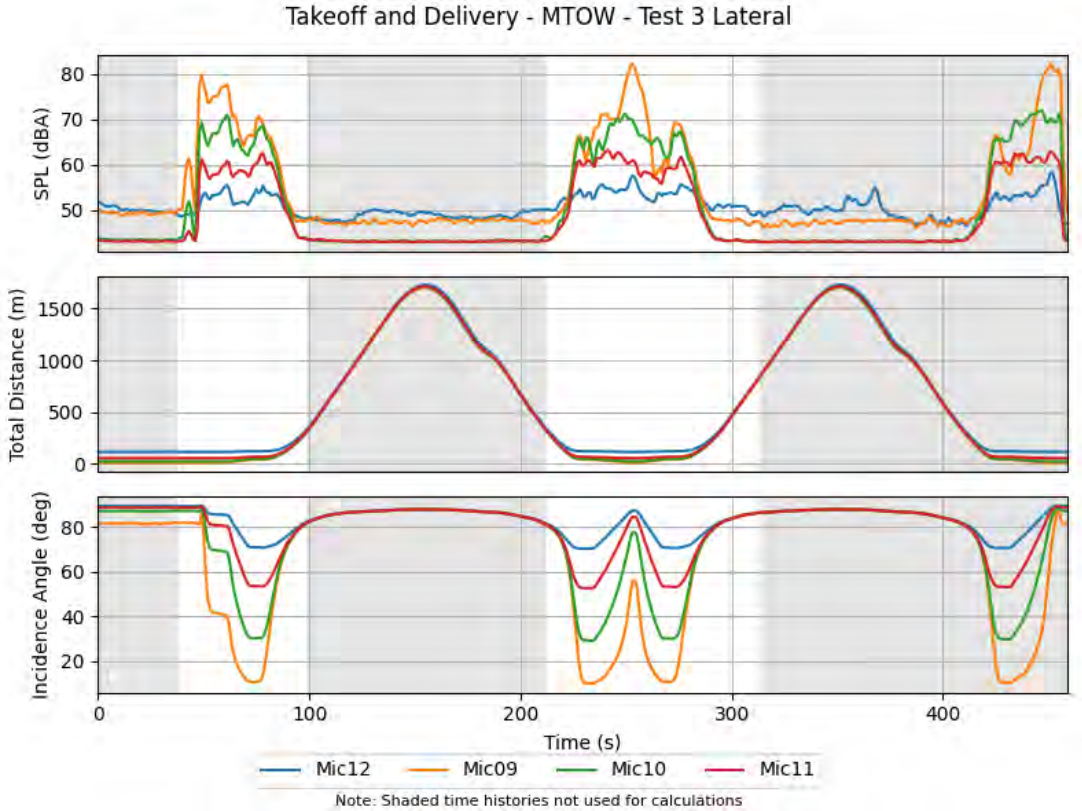

Takeoff and Delivery - MTOW - Test 2 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

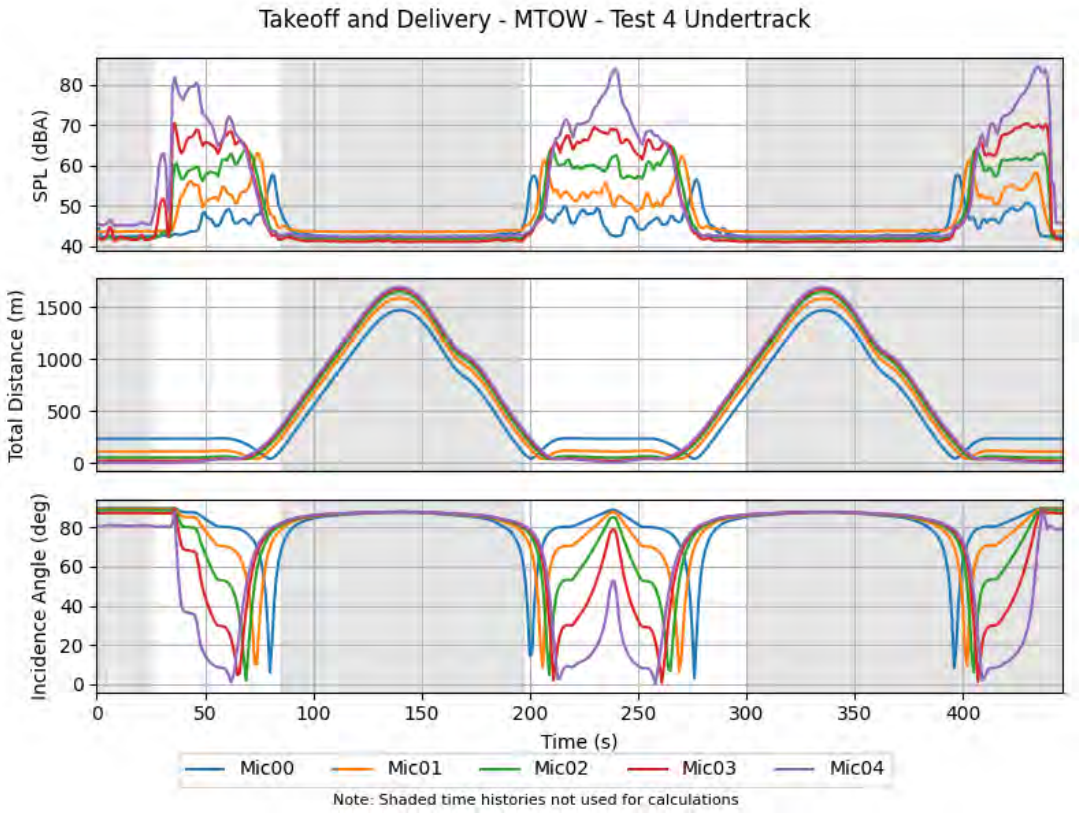

Takeoff and Delivery - MTOW - Test 2 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

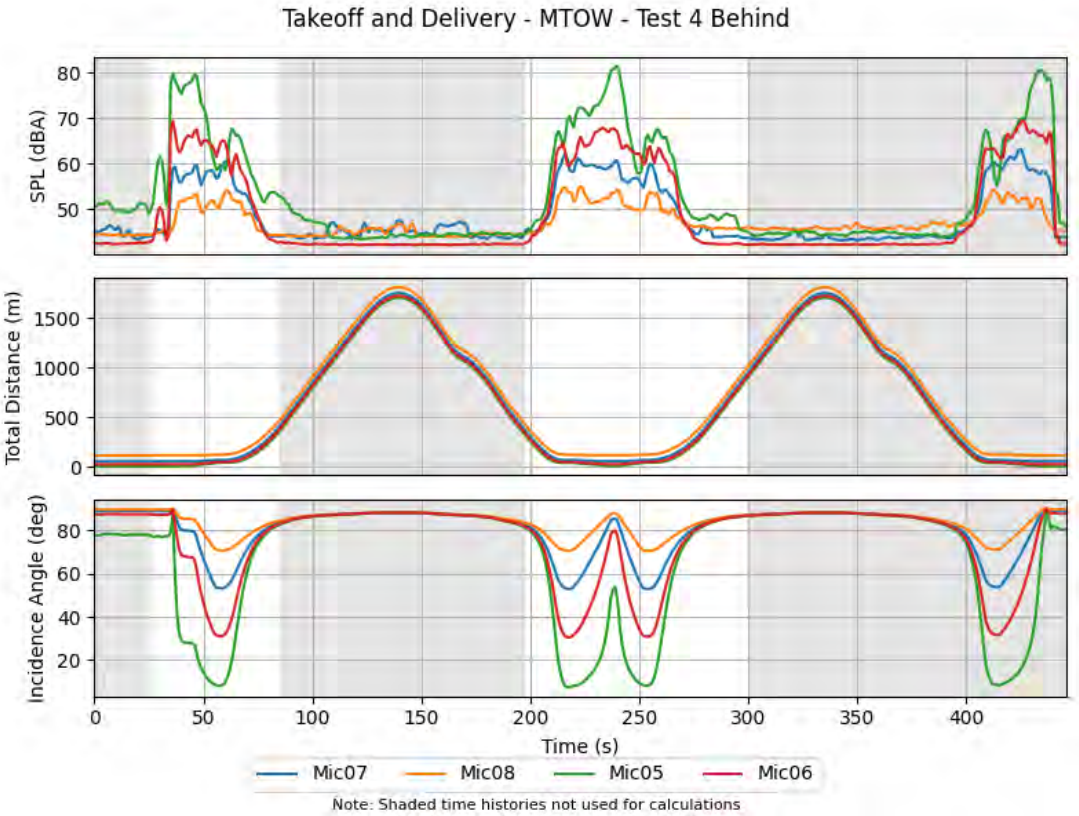

Takeoff and Delivery - MTOW - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

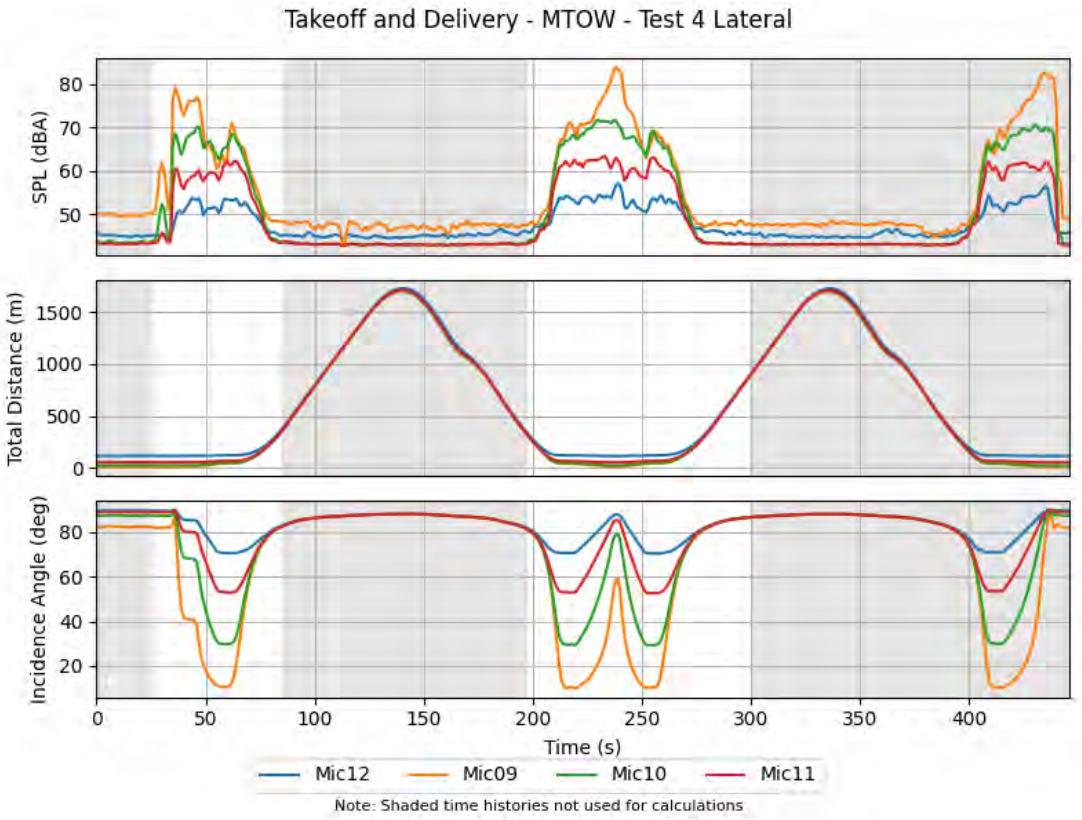

Takeoff and Delivery - MTOW - Test 3 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

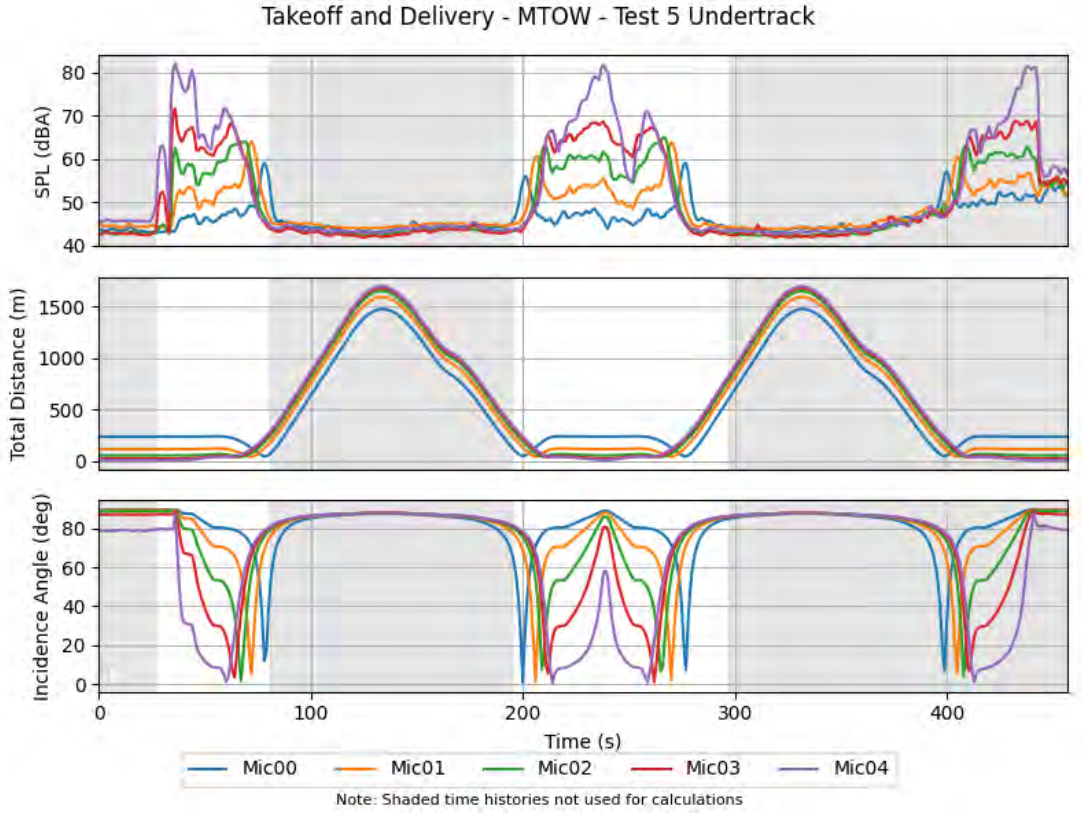

Takeoff and Delivery - MTOW - Test 3 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

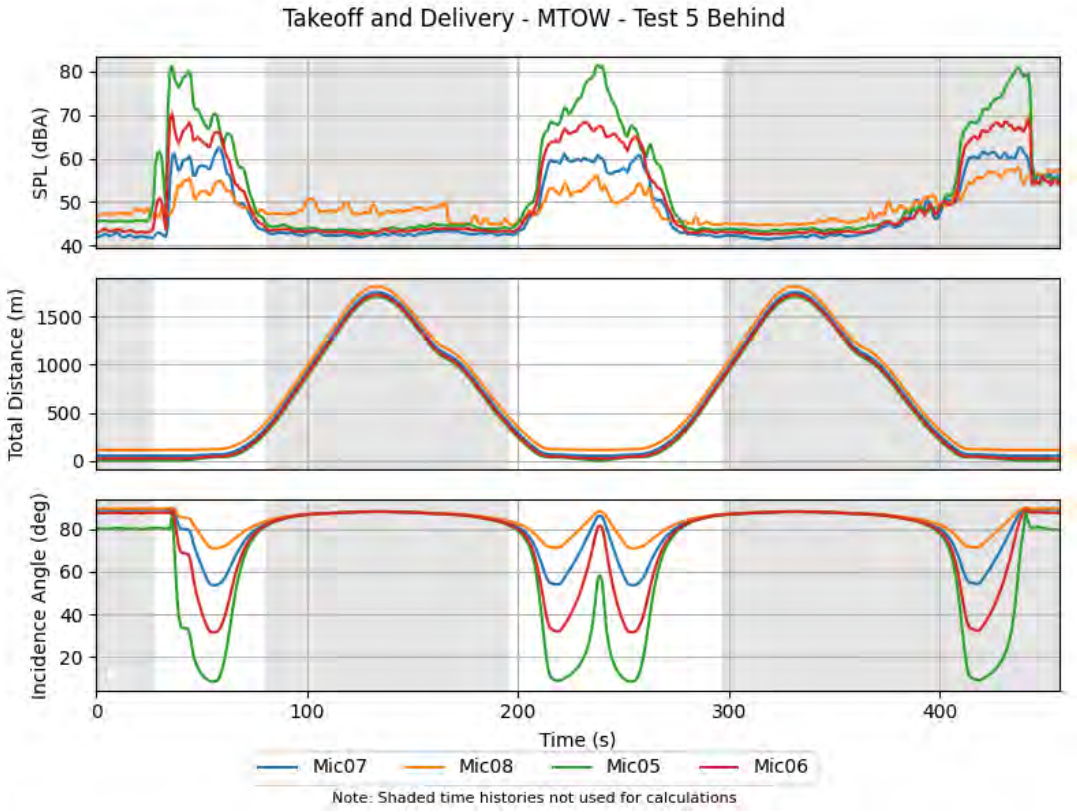

Takeoff and Delivery - MTOW - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

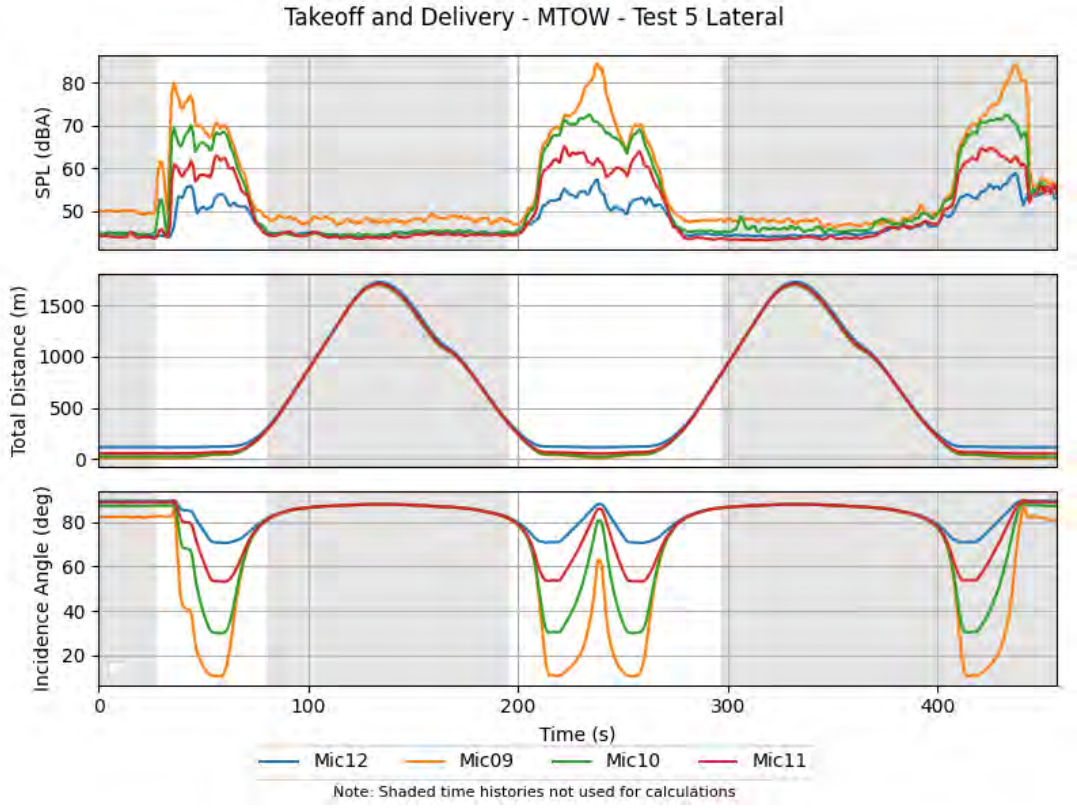

Takeoff and Delivery - MTOW - Test 4 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

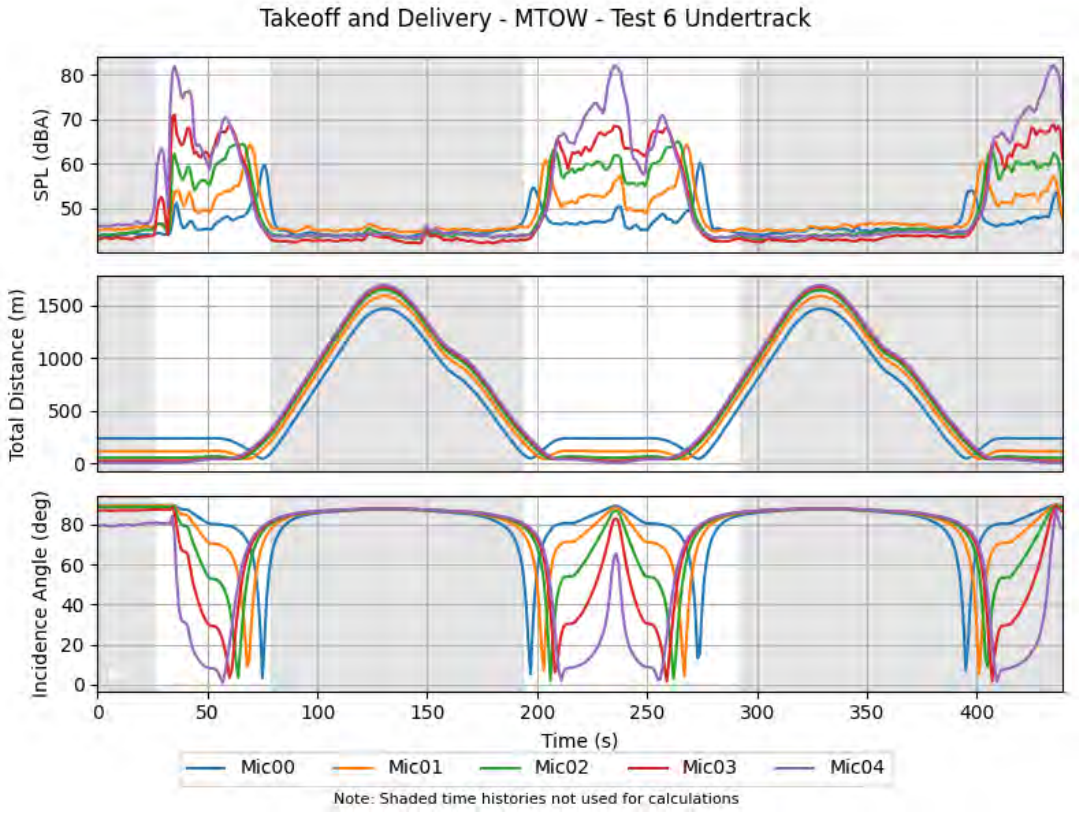

Takeoff and Delivery - MTOW - Test 4 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

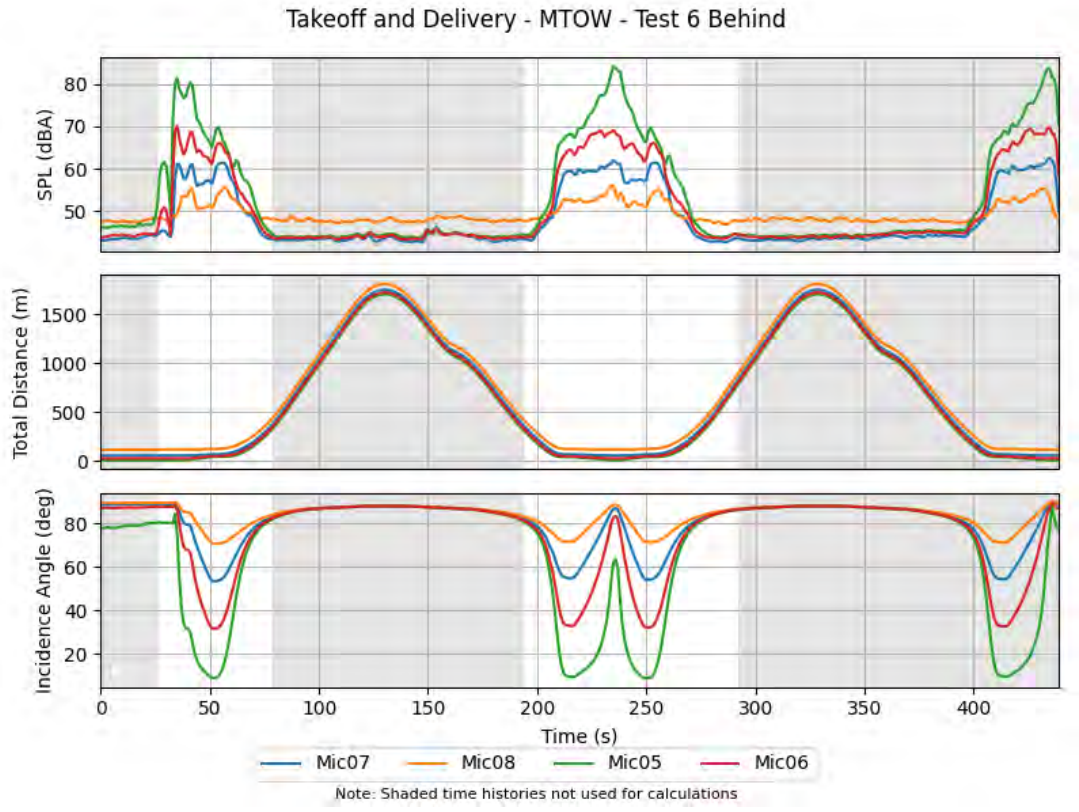

Takeoff and Delivery - MTOW - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

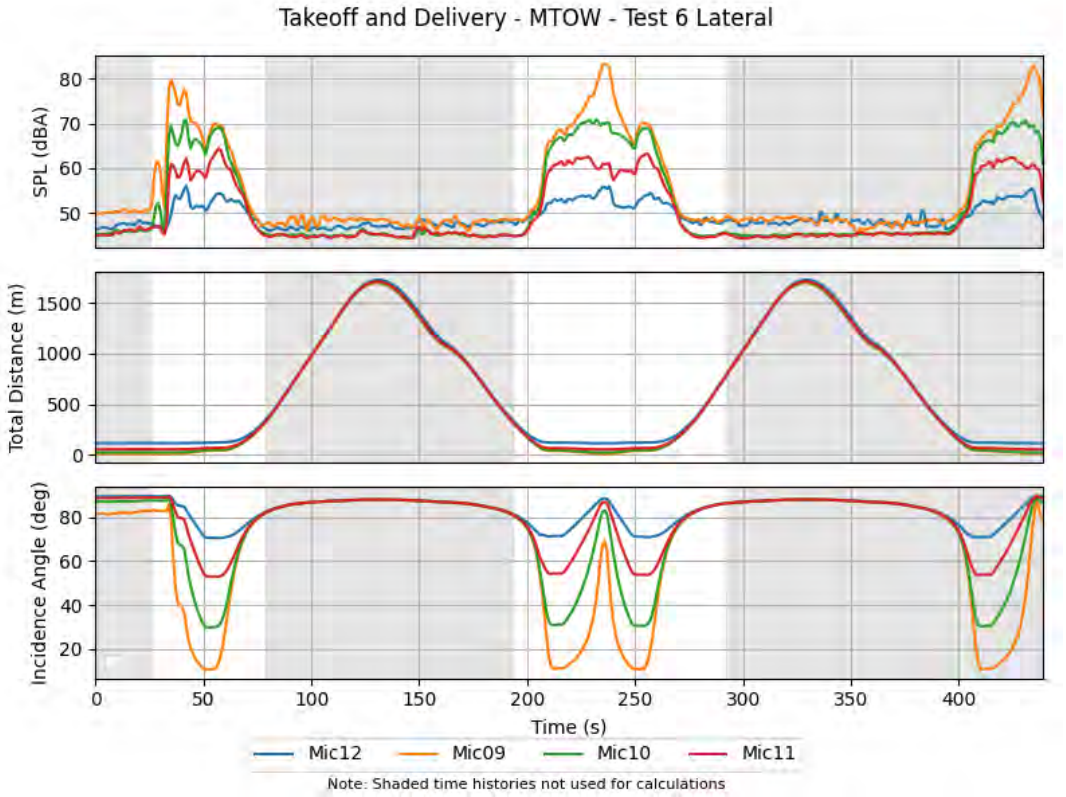

Takeoff and Delivery - MTOW - Test 5 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

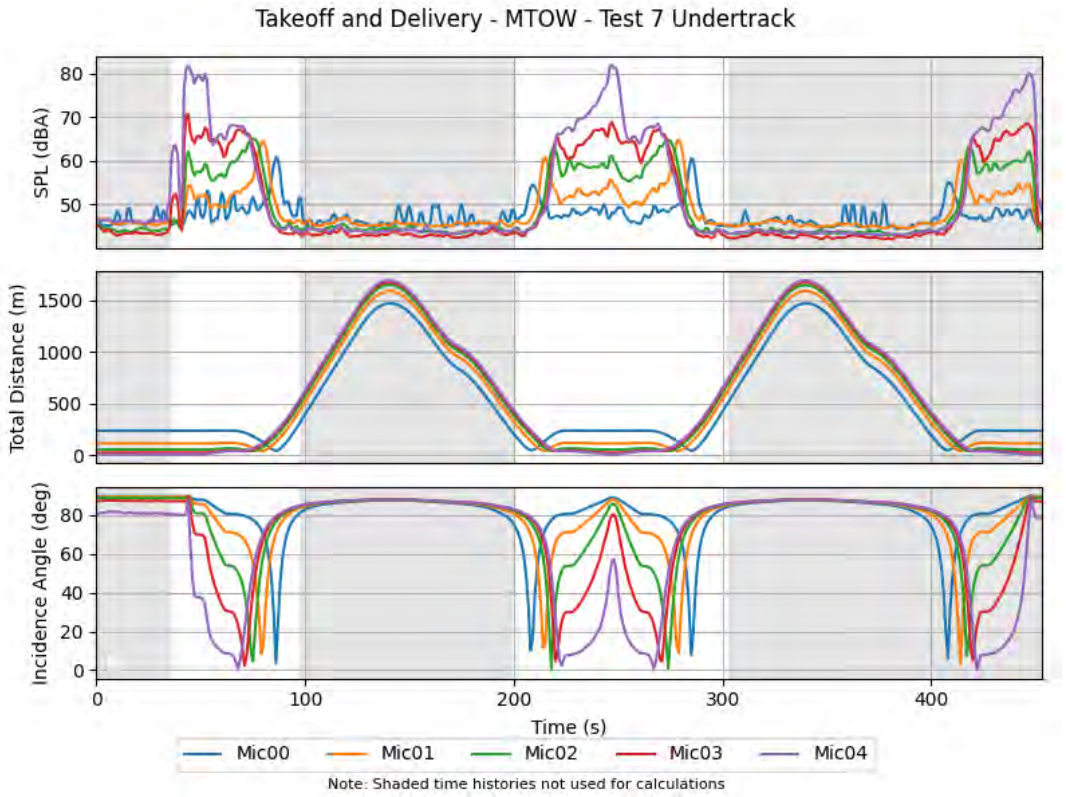

Takeoff and Delivery - MTOW - Test 5 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

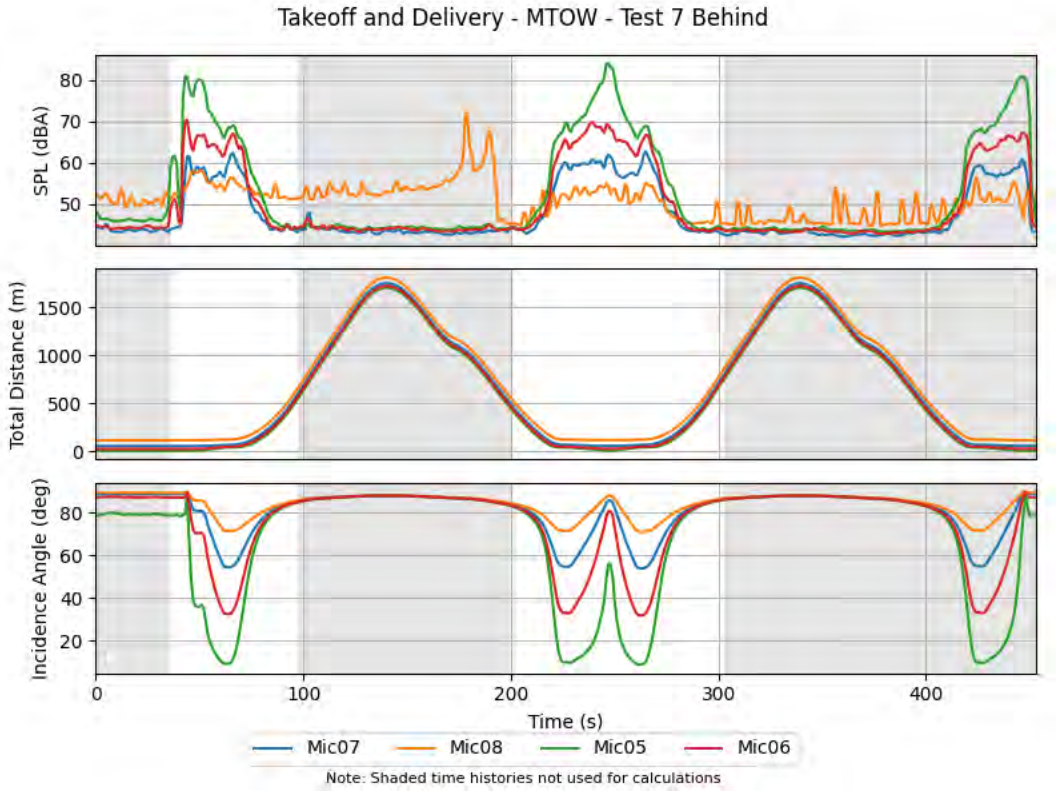

Takeoff and Delivery - MTOW - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

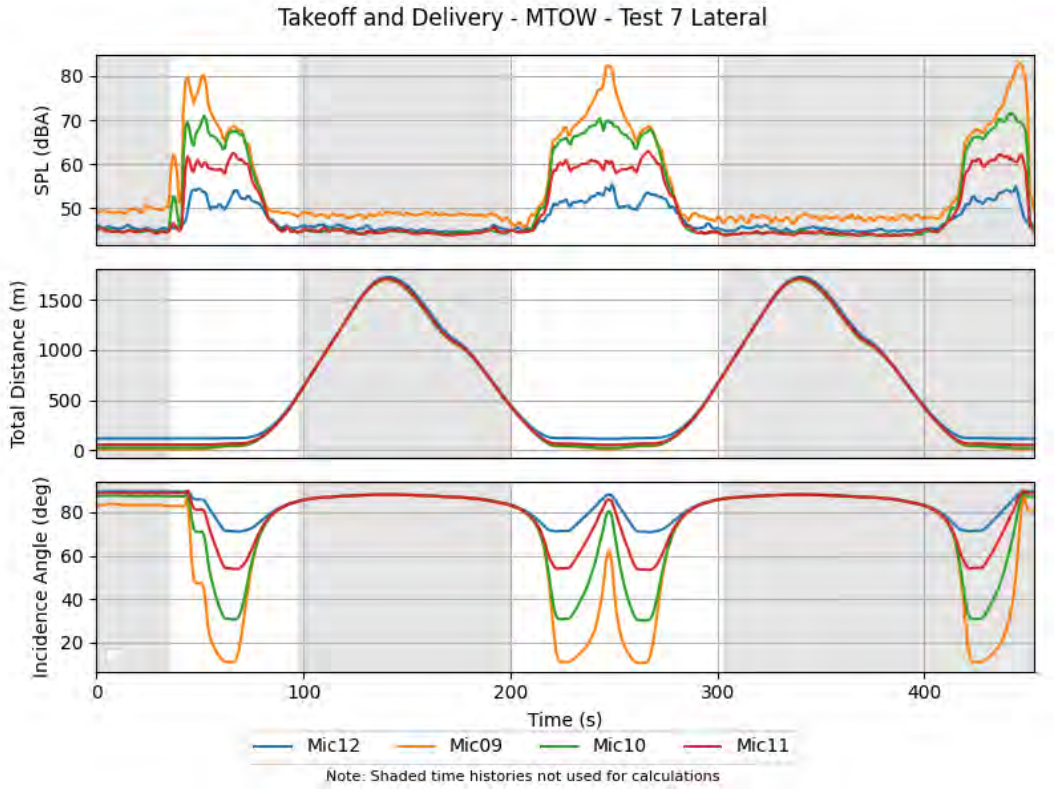

Takeoff and Delivery - MTOW - Test 6 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

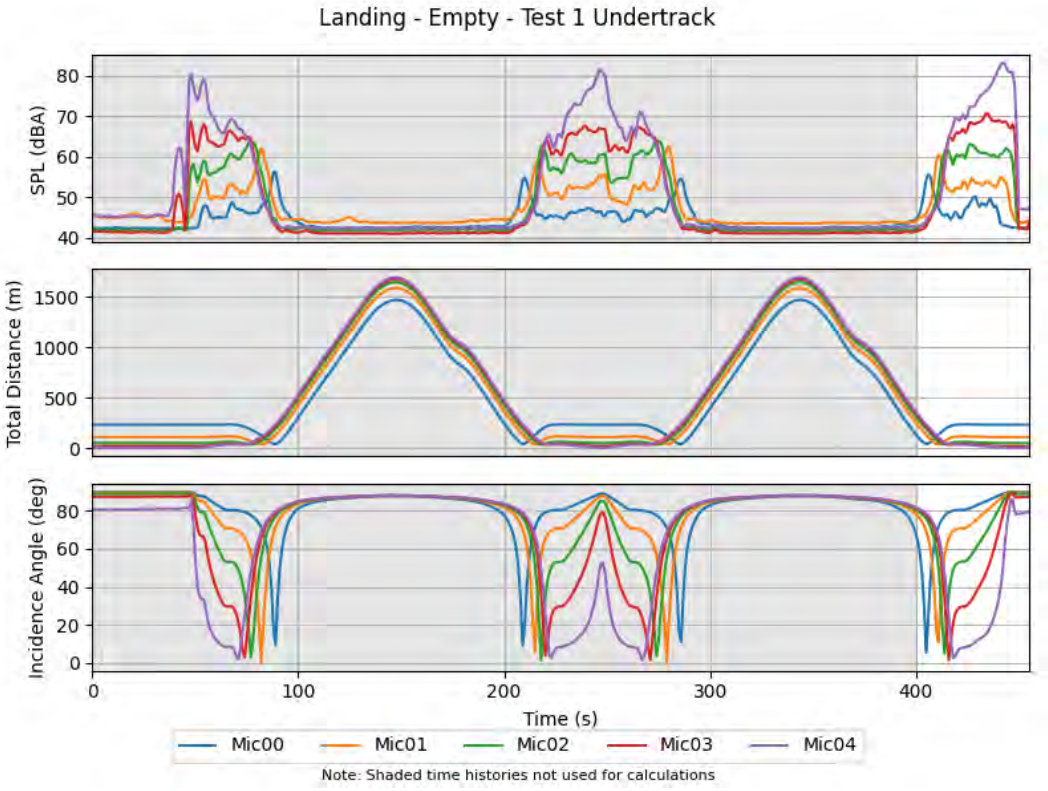

Takeoff and Delivery - MTOW - Test 6 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

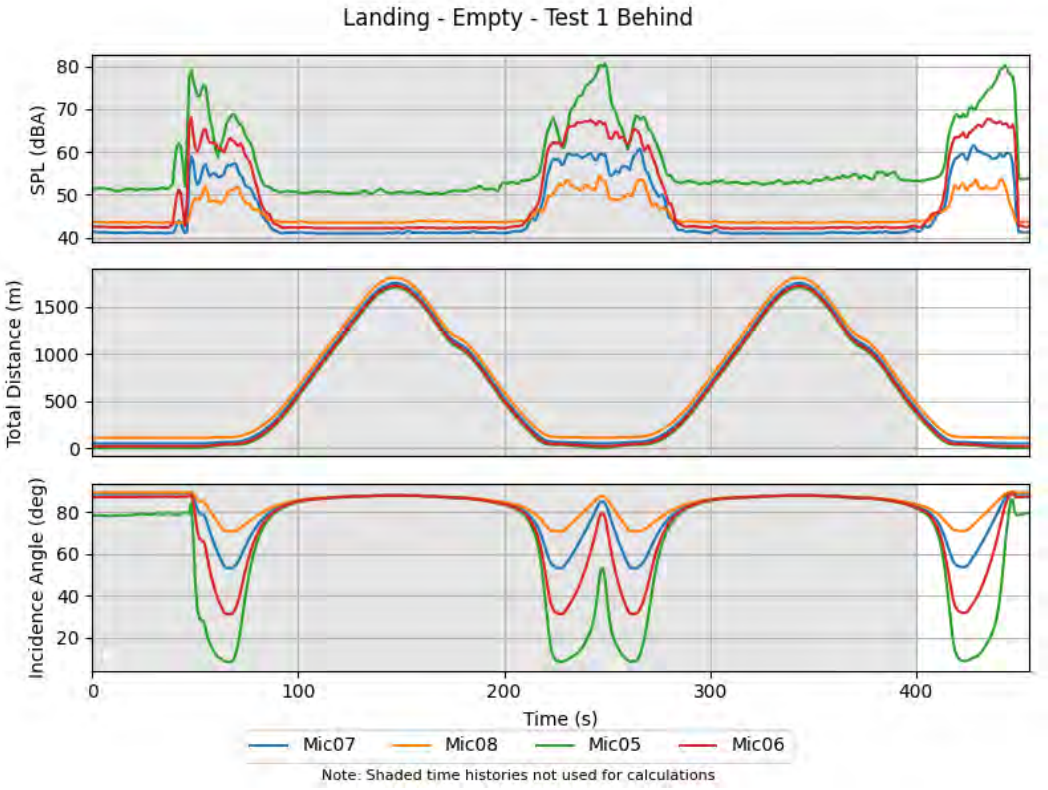

Takeoff and Delivery - MTOW - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

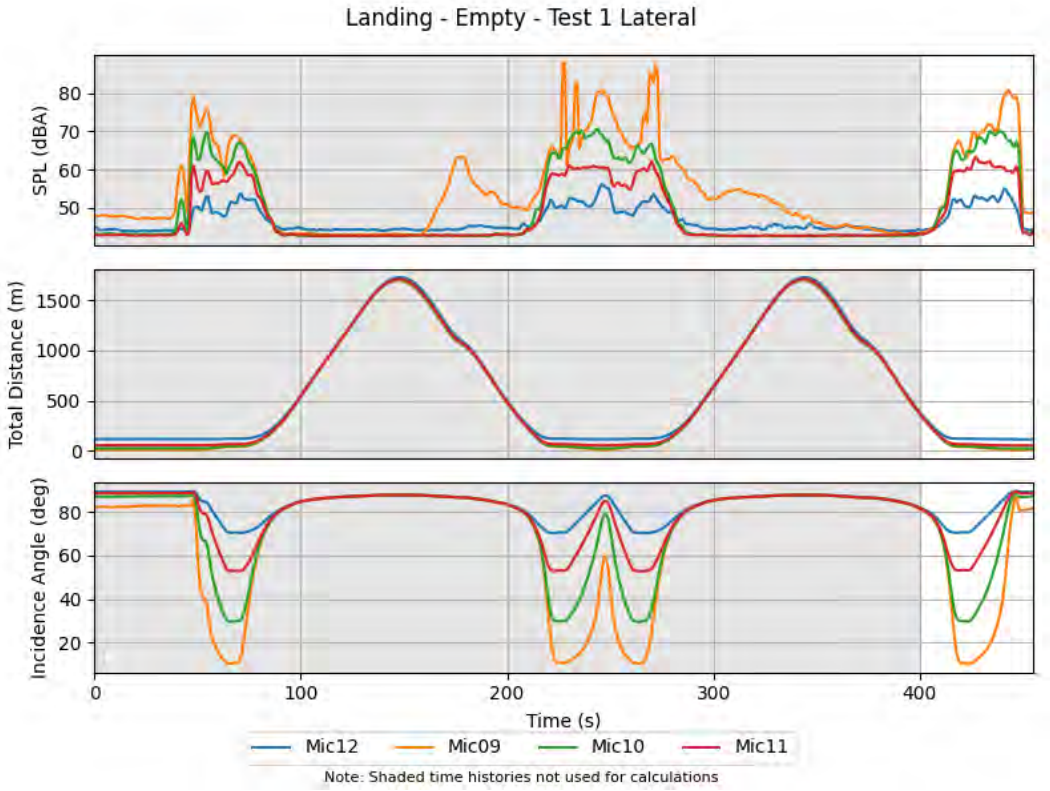

Takeoff and Delivery - MTOW - Test 7 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

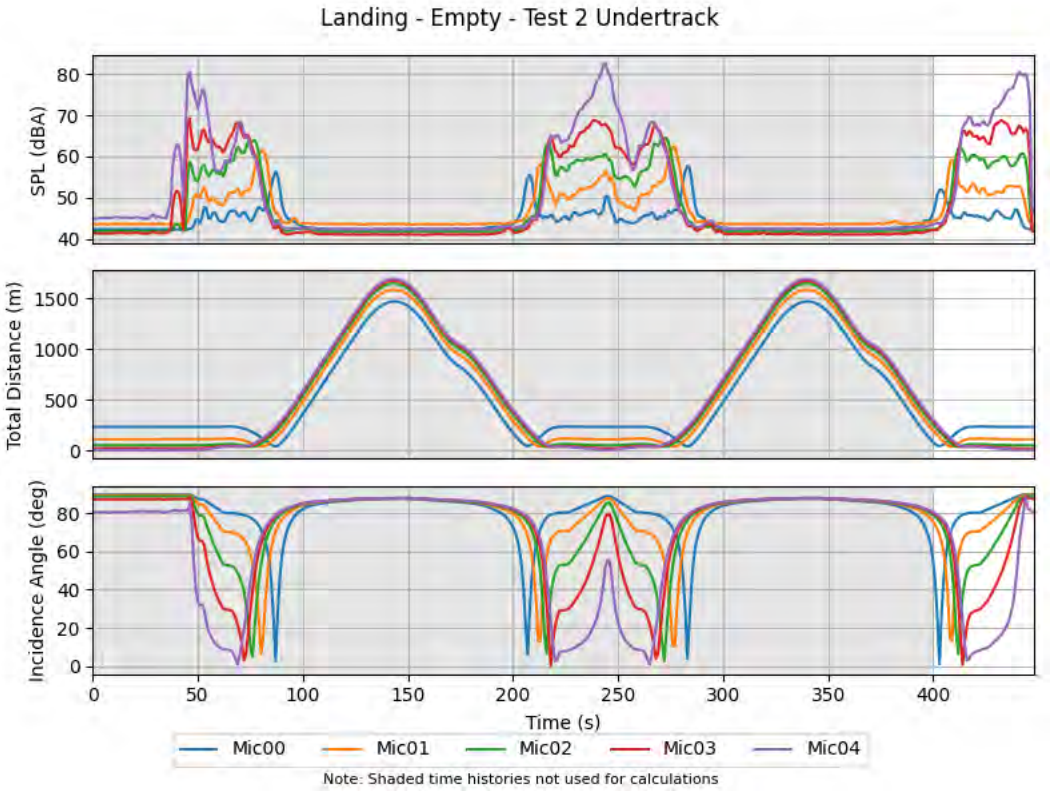

Takeoff and Delivery - MTOW - Test 7 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

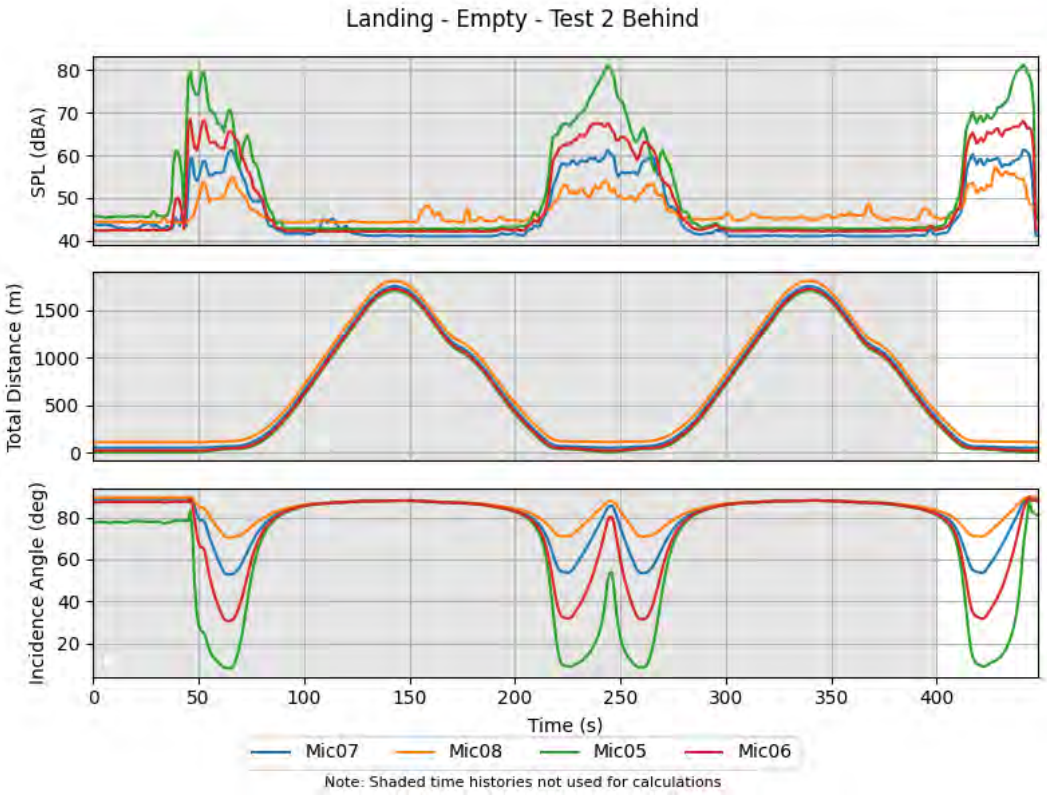

Takeoff and Delivery - MTOW - Test 7 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

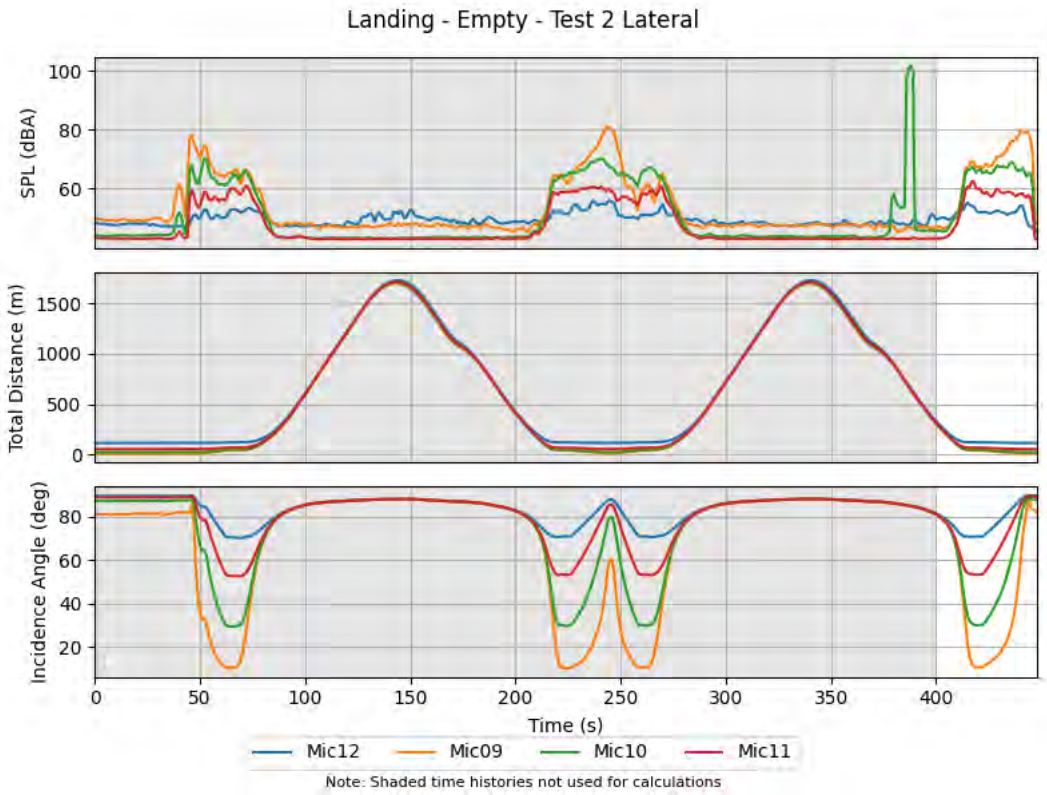

Landing - Empty - Test 1 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations


Landing - Empty - Test 1 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

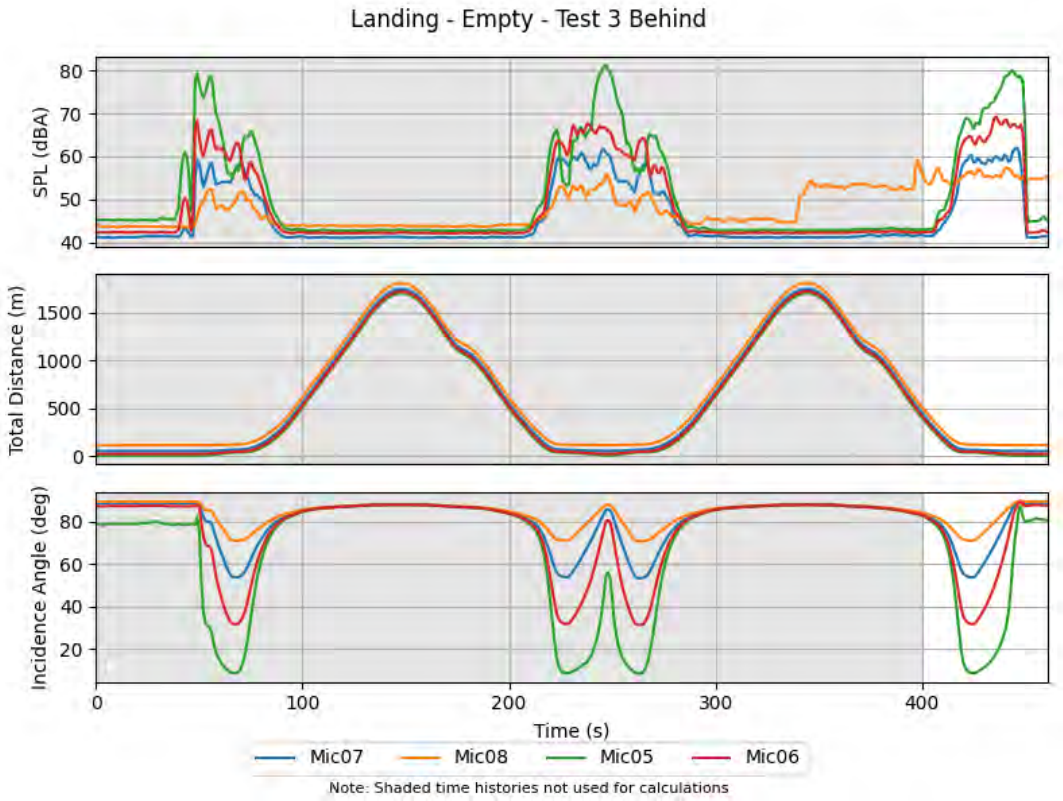

Landing - Empty - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

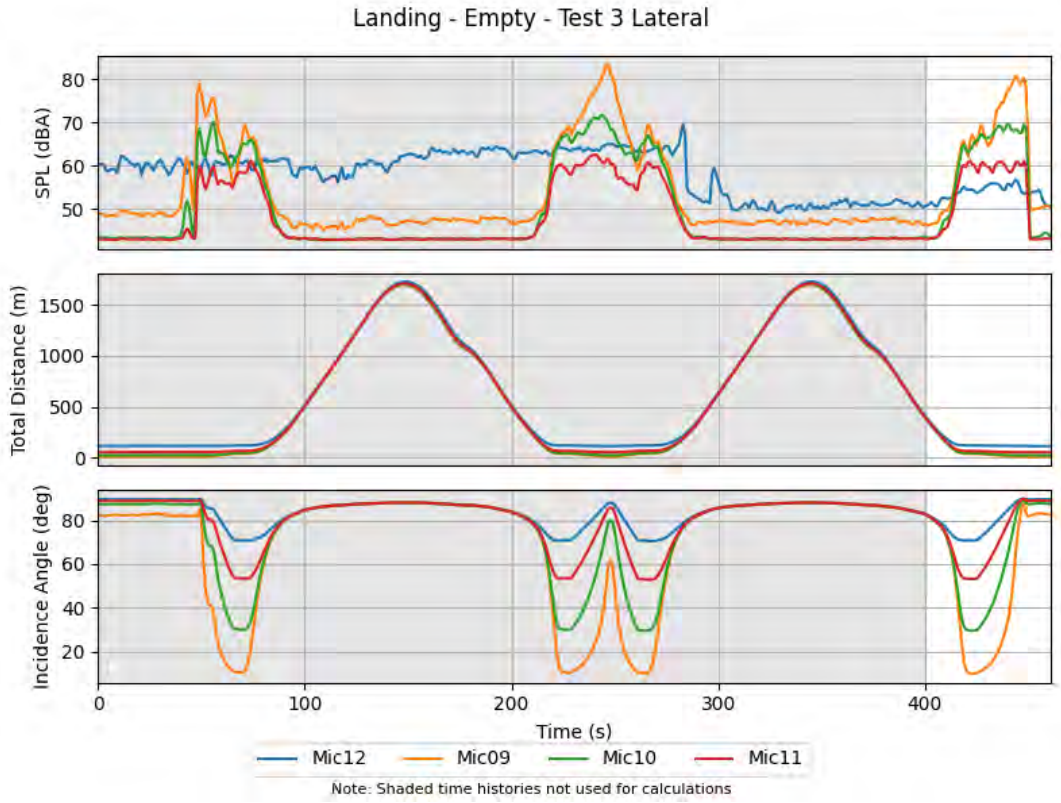

Landing - Empty - Test 2 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

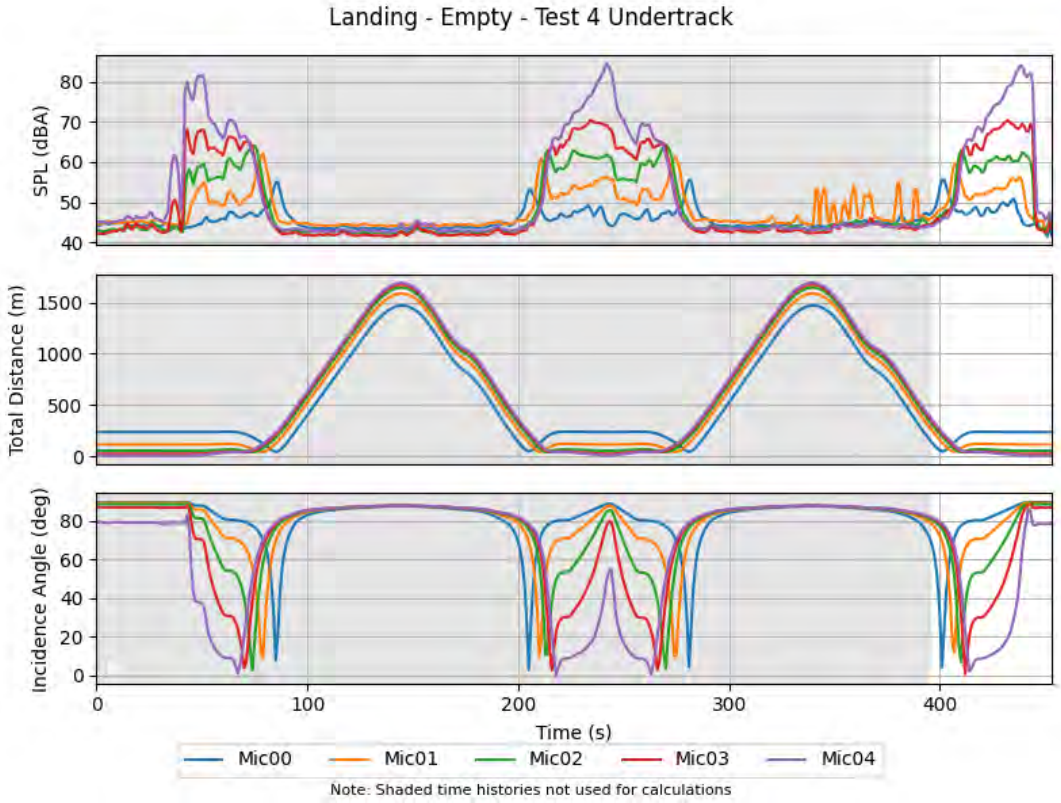

Landing - Empty - Test 2 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

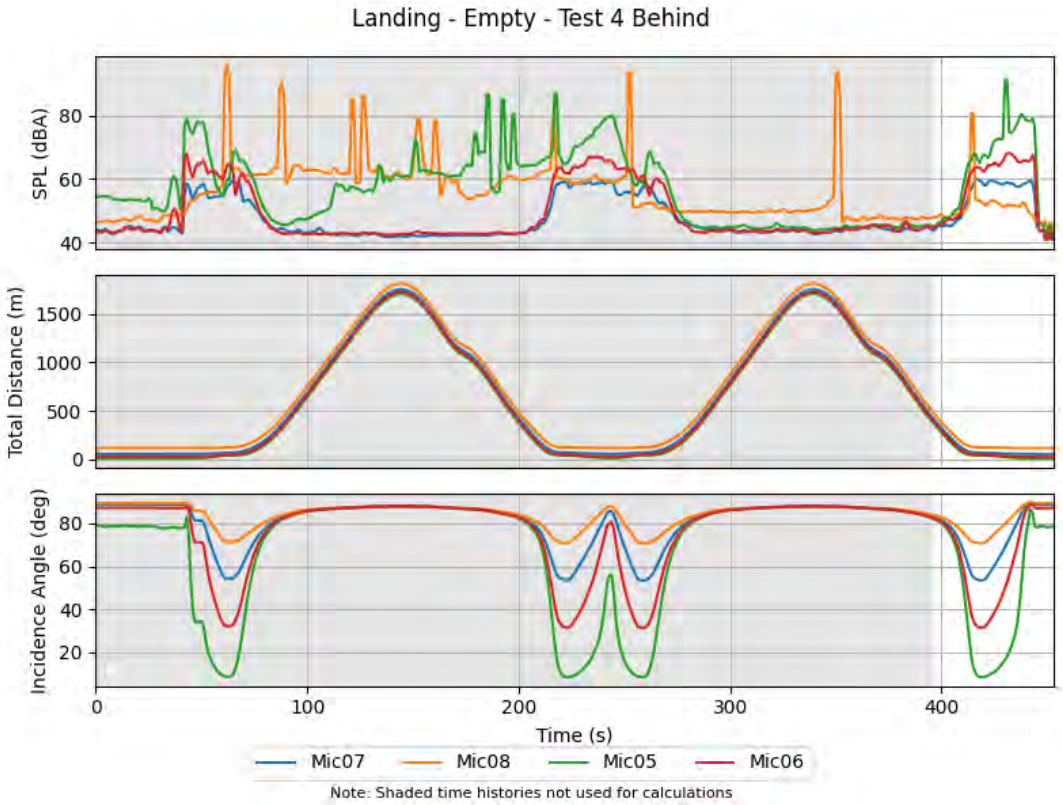

Landing - Empty - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

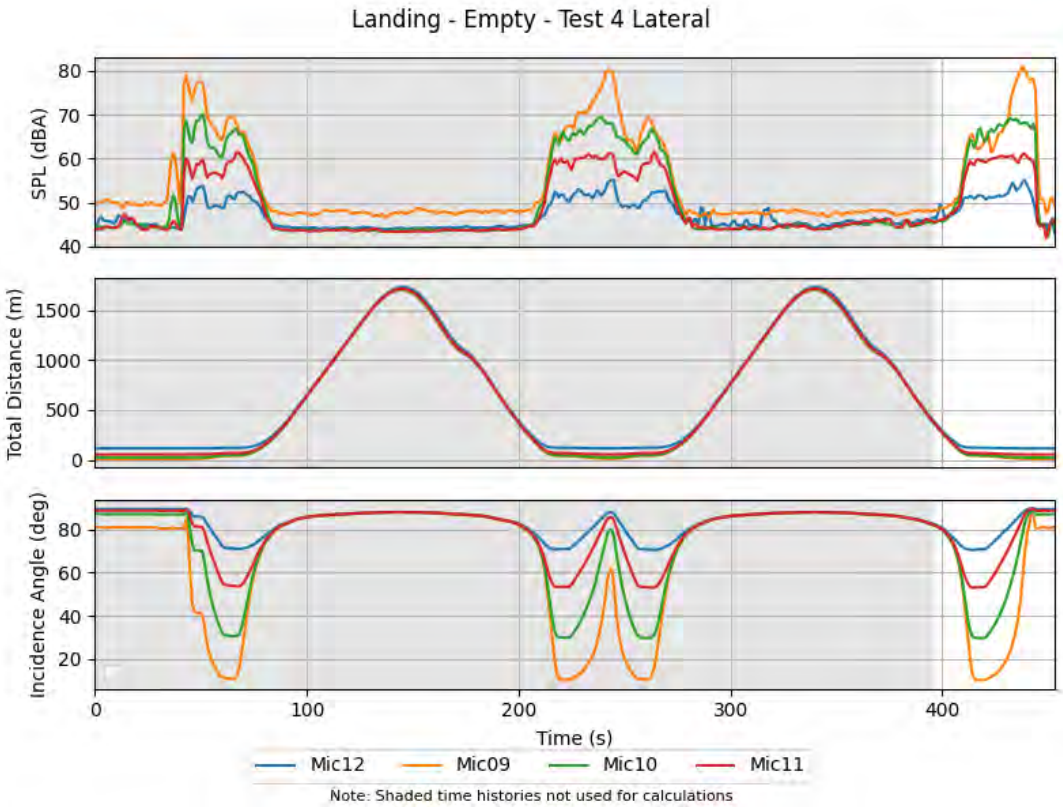

Landing - Empty - Test 3 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

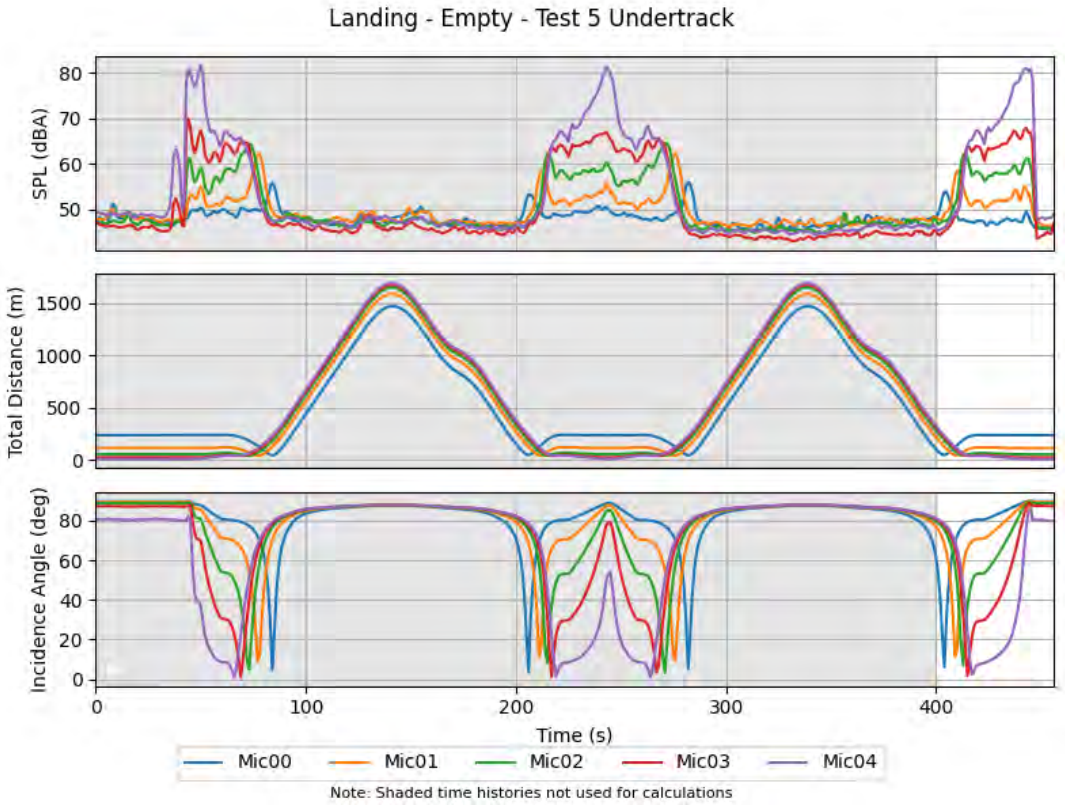

Landing - Empty - Test 3 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

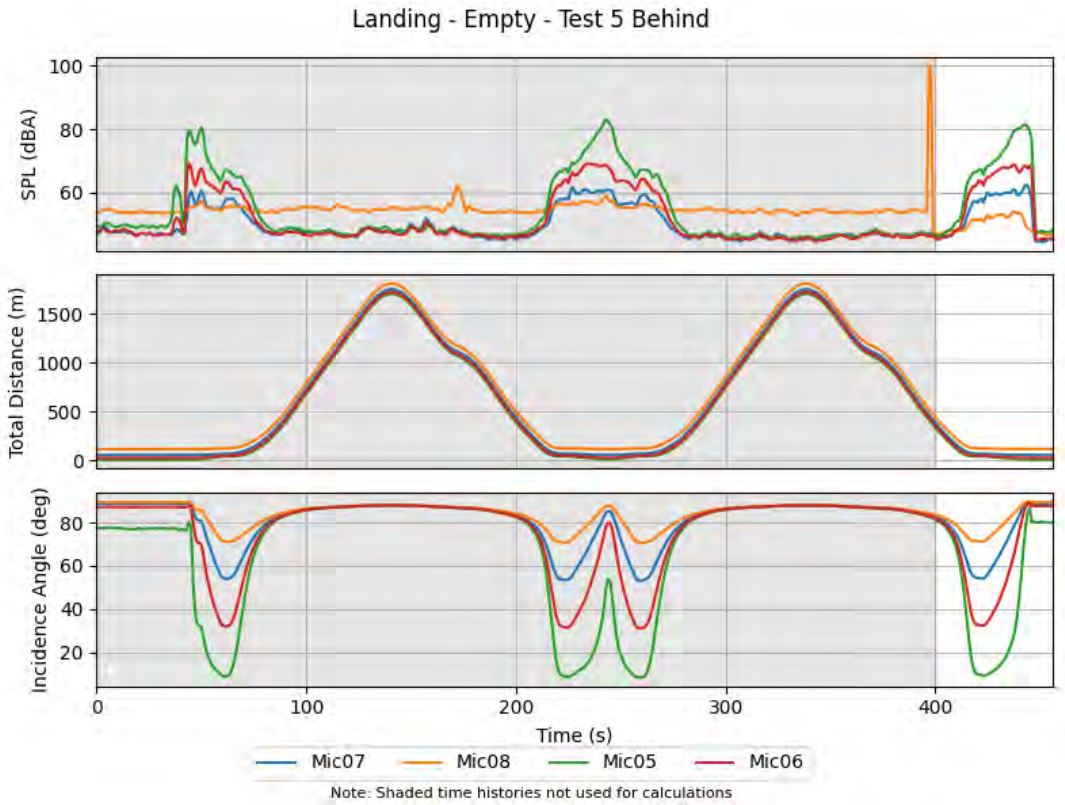

Landing - Empty - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

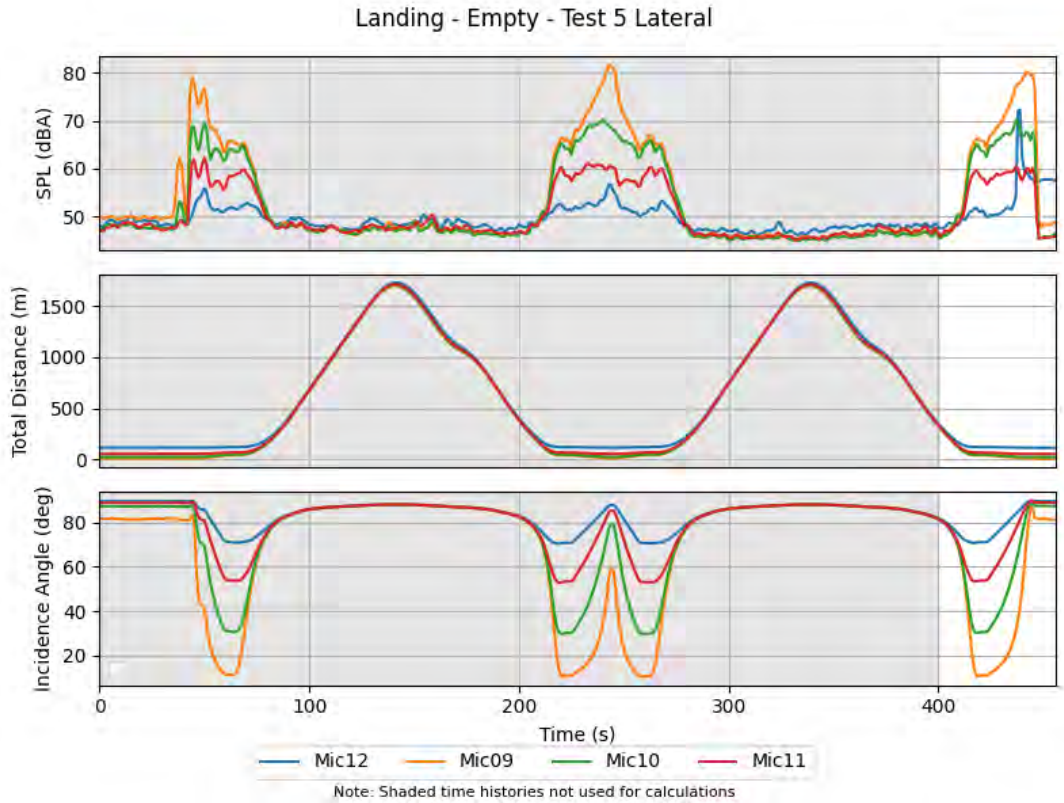

Landing - Empty - Test 4 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

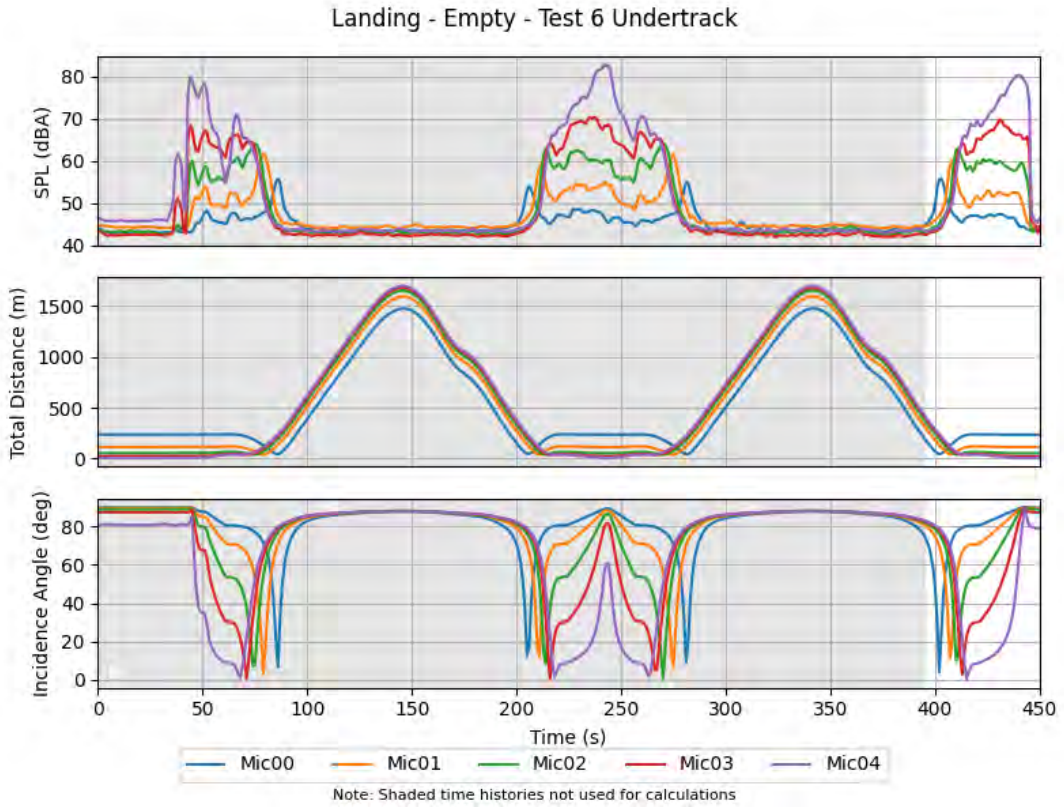

Landing - Empty - Test 4 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

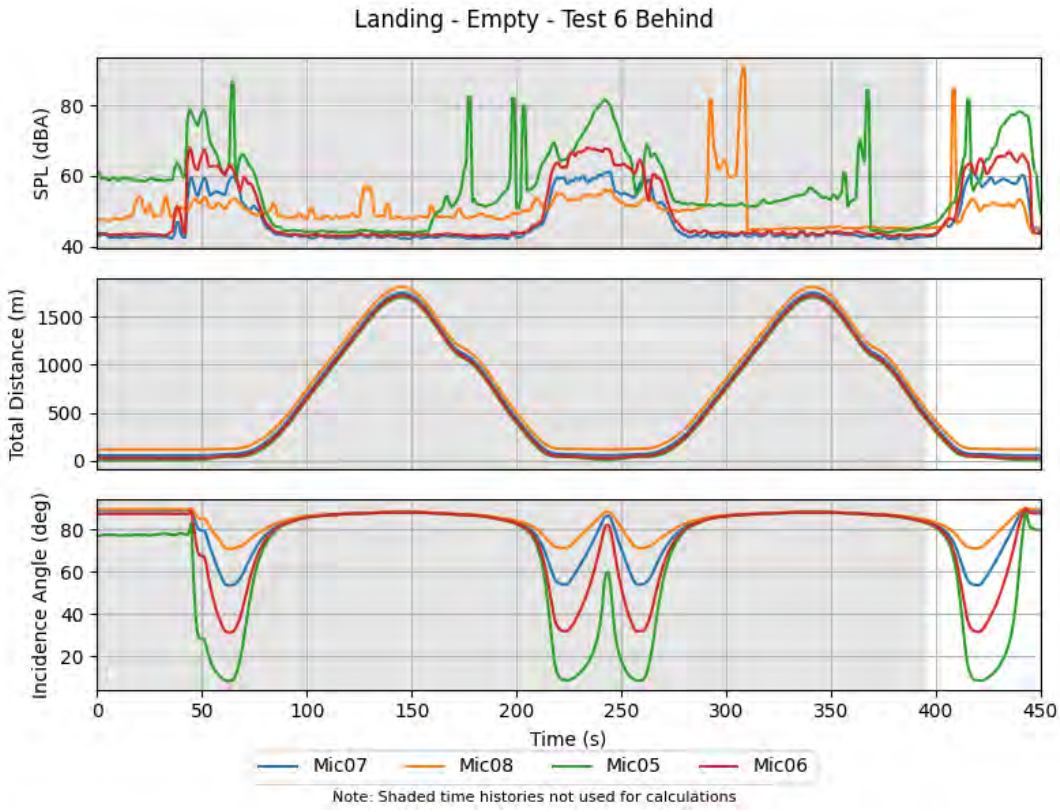

Landing - Empty - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

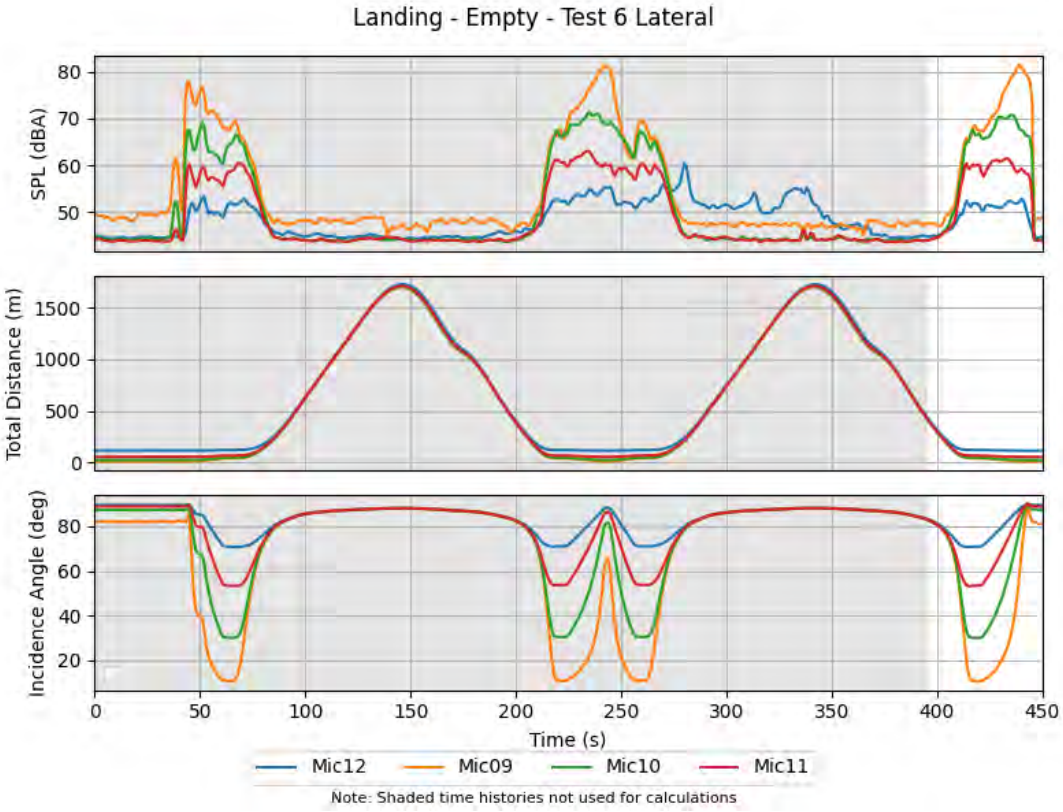

Landing - Empty - Test 5 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

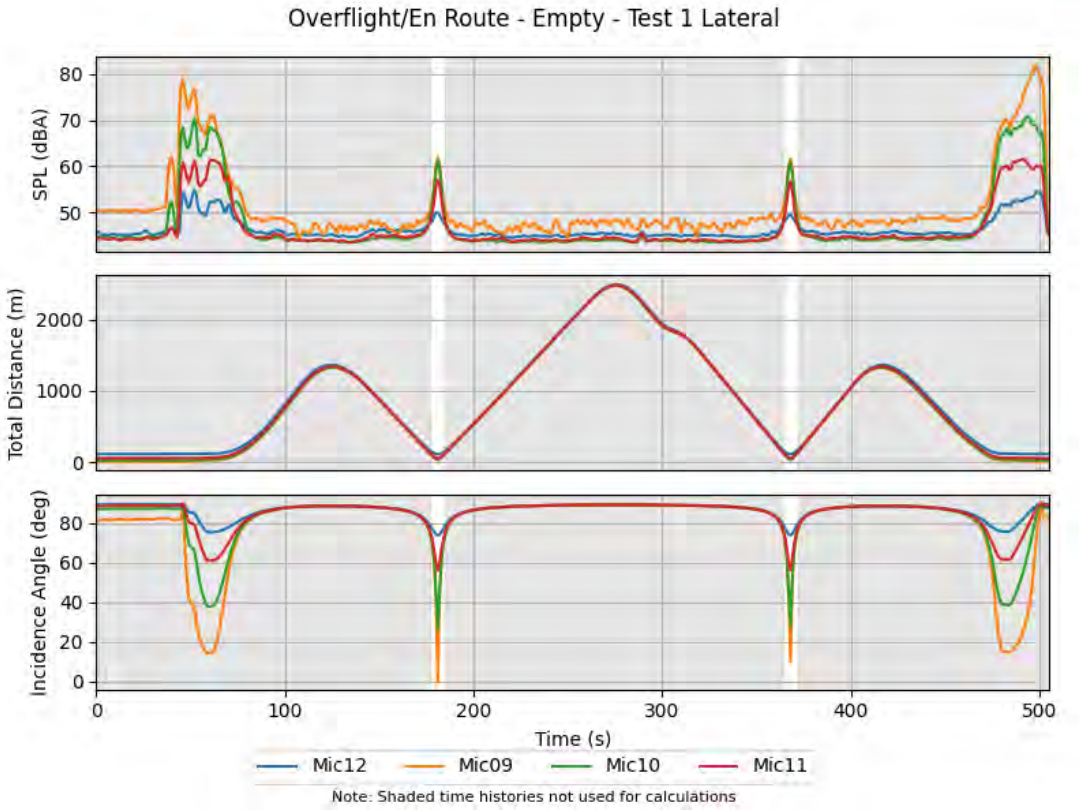

Landing - Empty - Test 5 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

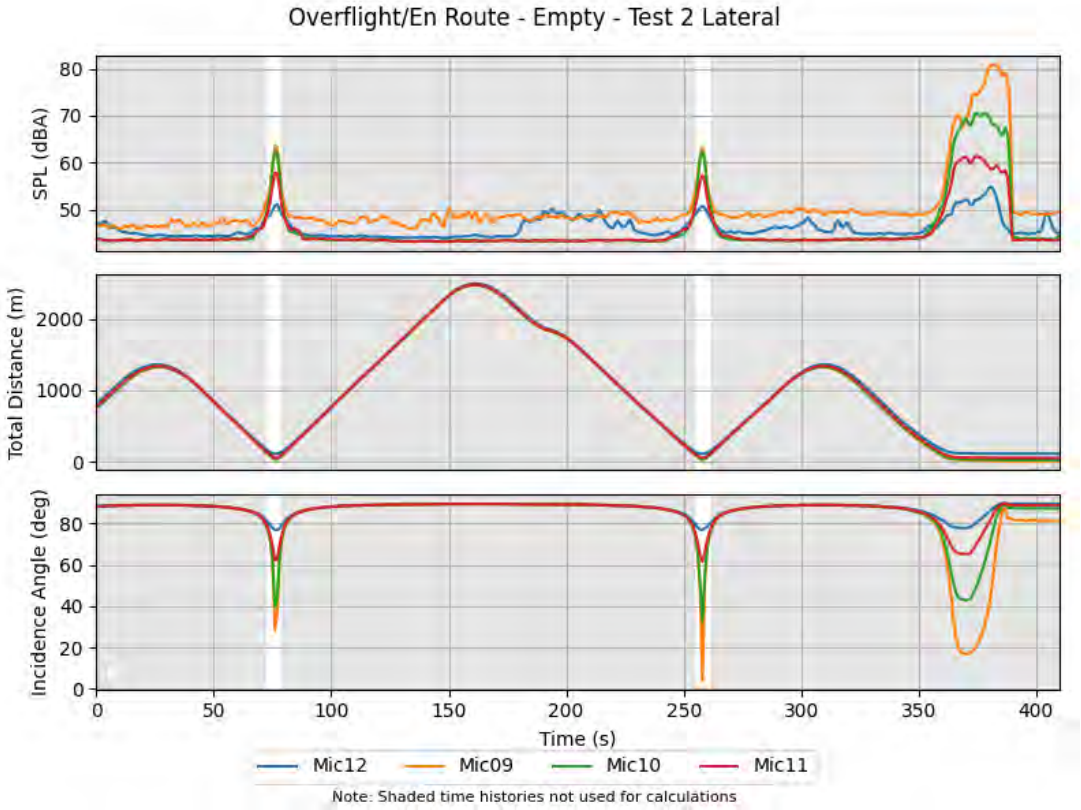

Landing - Empty - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

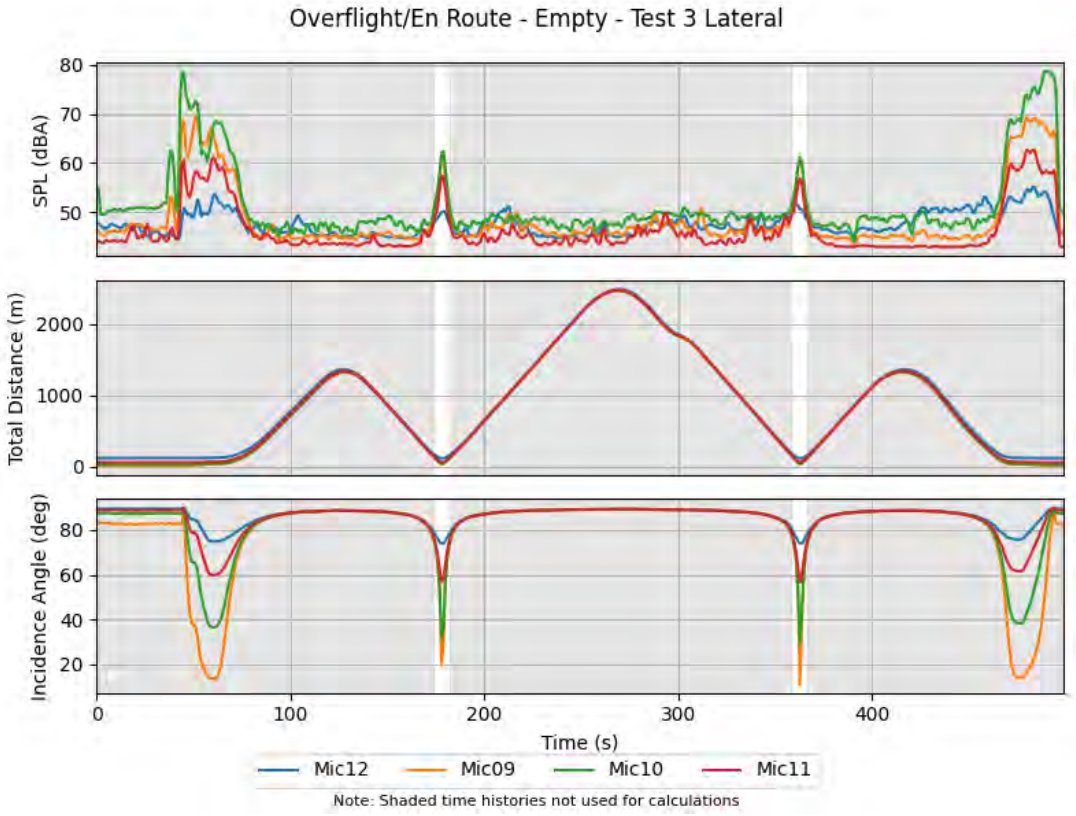

Landing - Empty - Test 6 Undertrack
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic00
Mic01
Mic02
Mic03
Mic04
Note: Shaded time histories not used for calculations

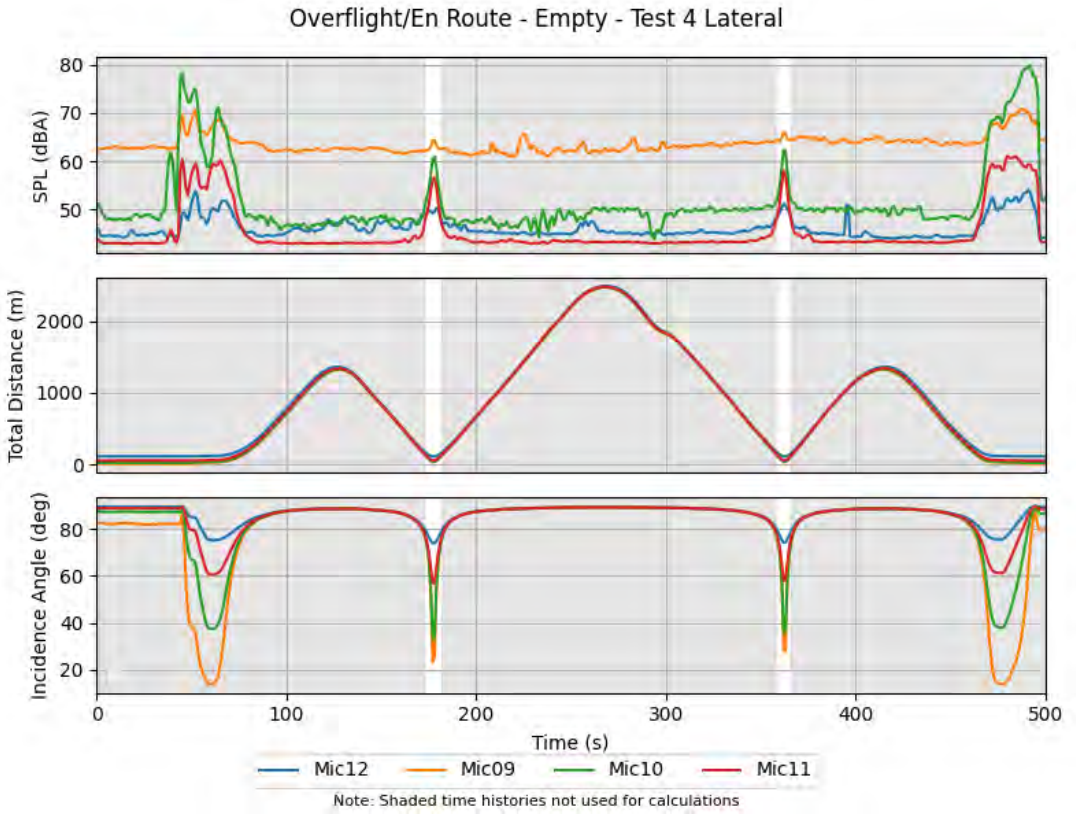

Landing - Empty - Test 6 Behind
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic07
Mic08
Mic05
Mic06
Note: Shaded time histories not used for calculations

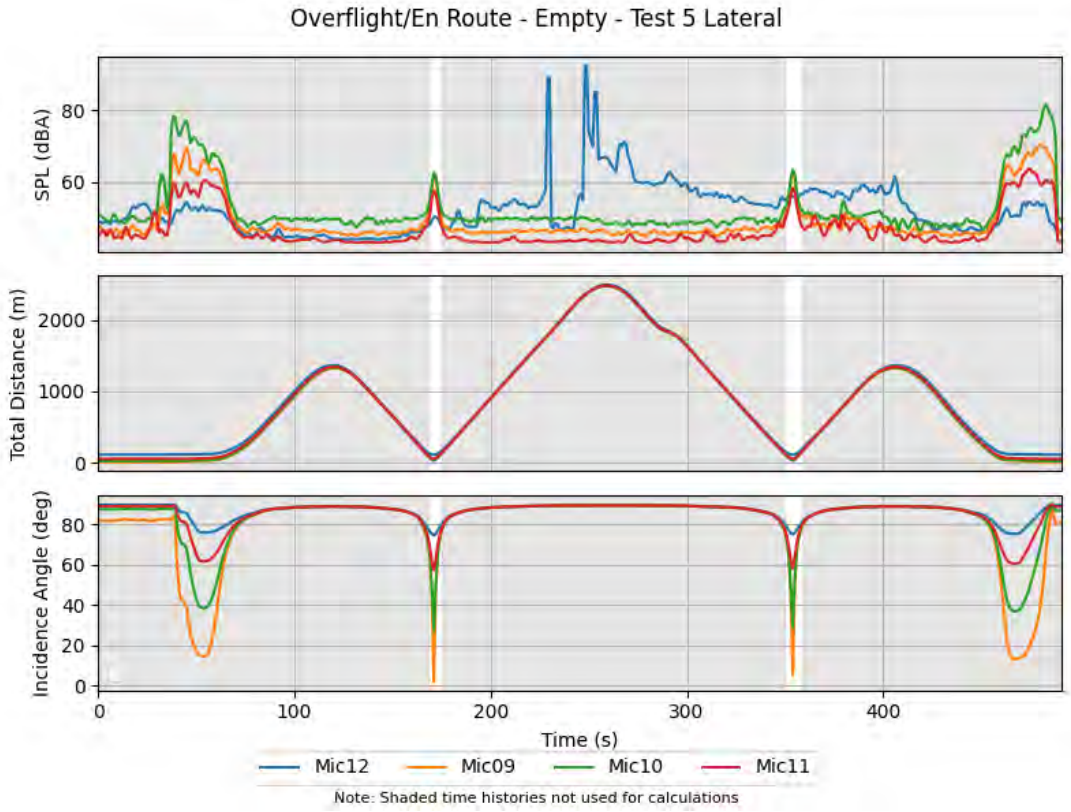

Landing - Empty - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

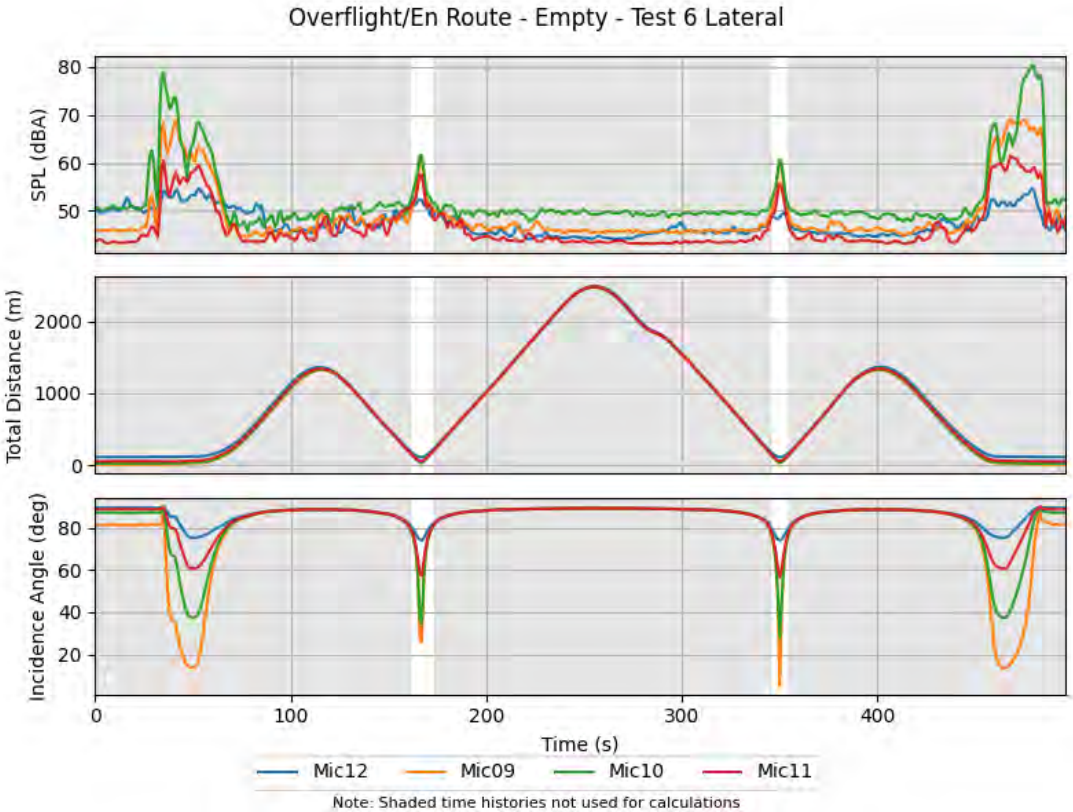

Overflight/En Route - Empty - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

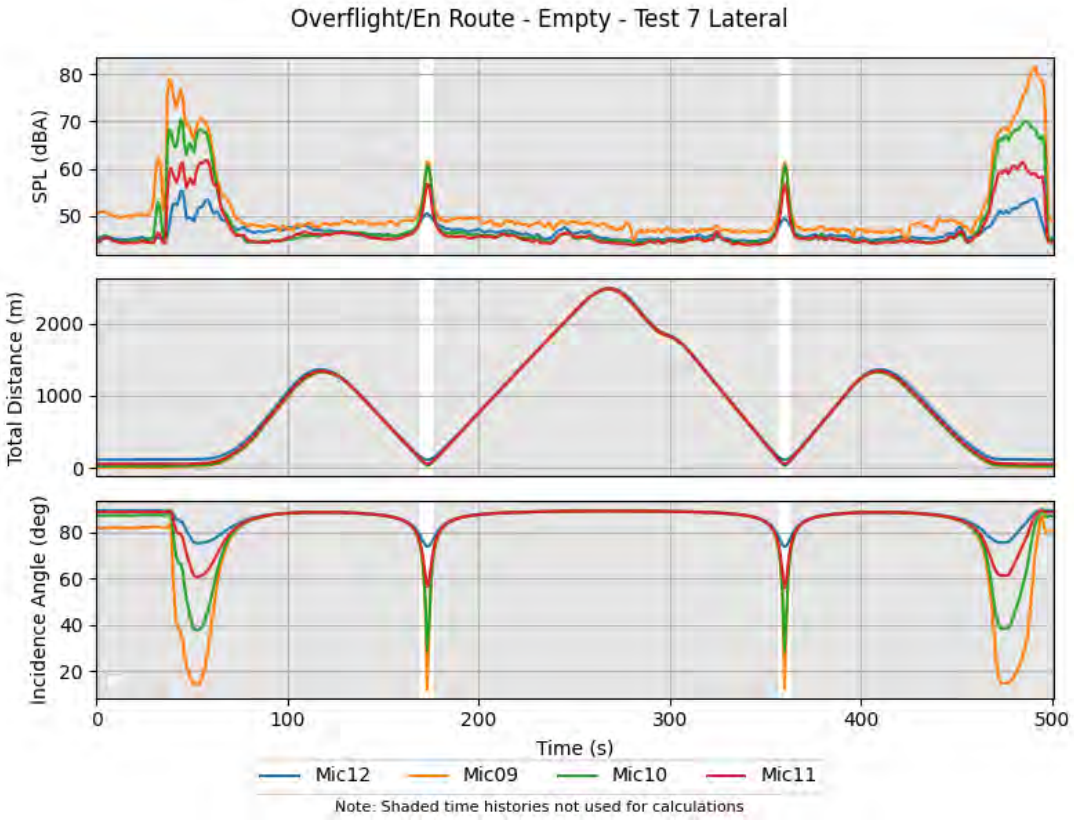

Overflight/En Route - Empty - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

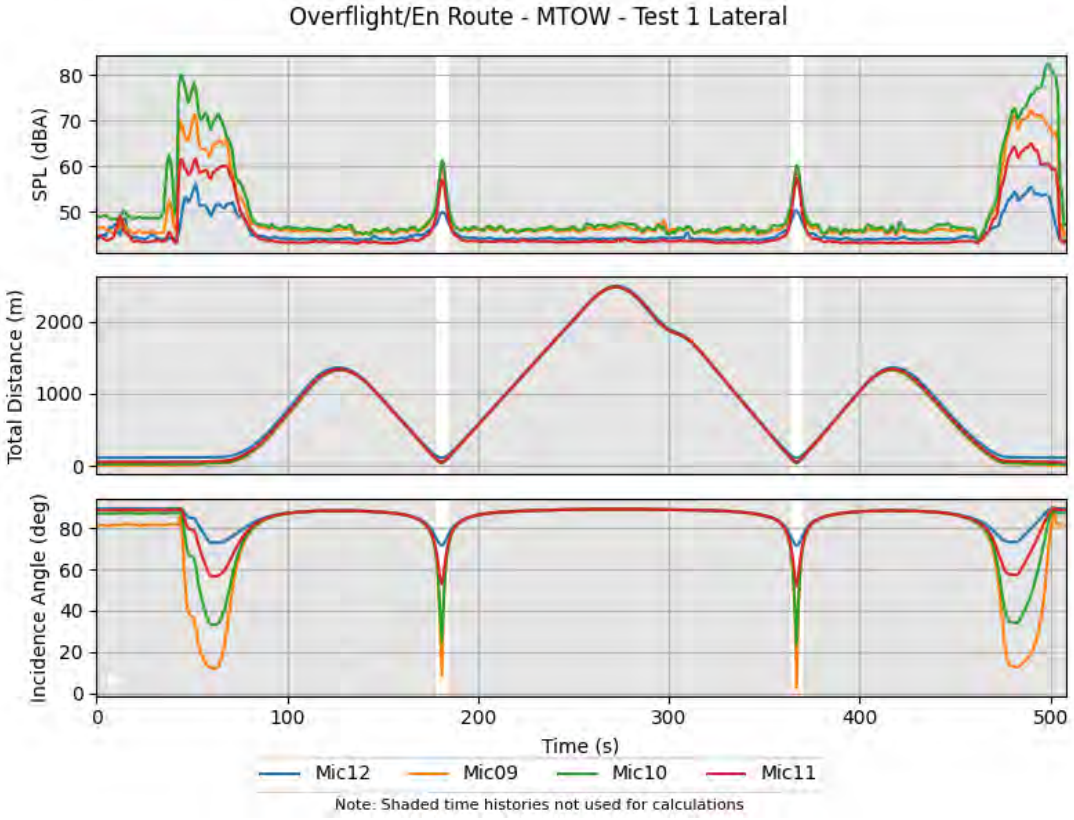

Overflight/En Route - Empty - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

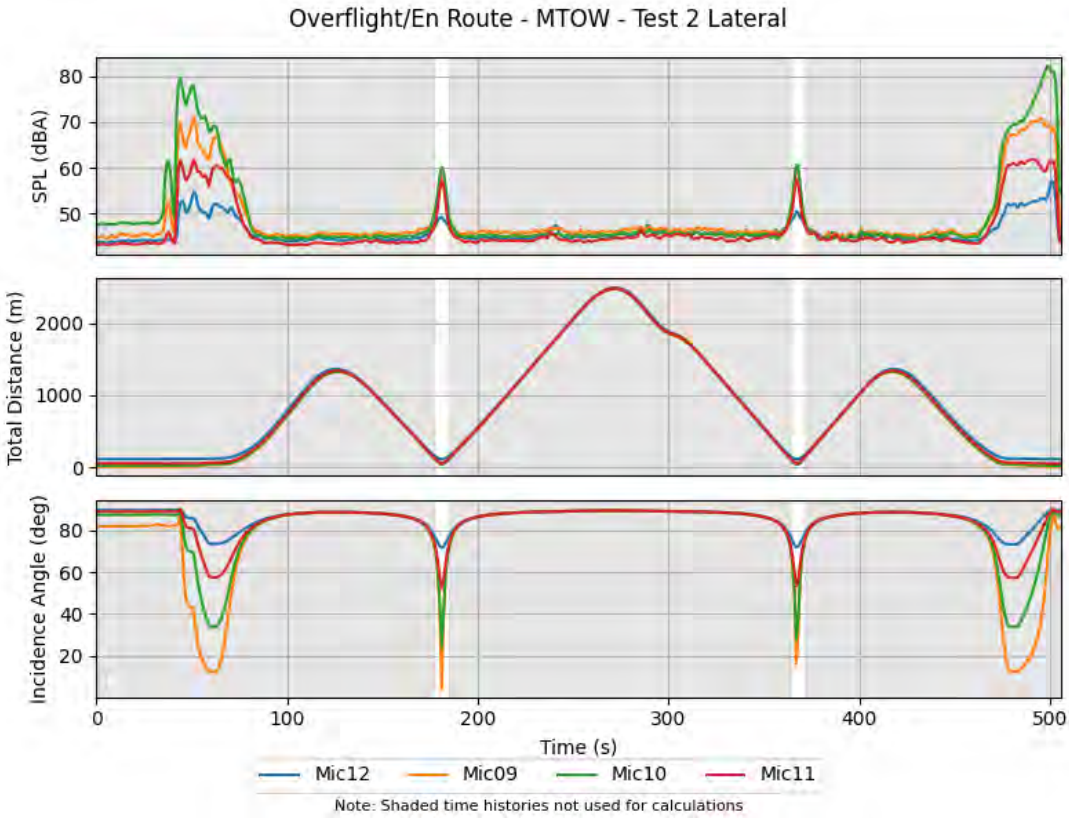

Overflight/En Route - Empty - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

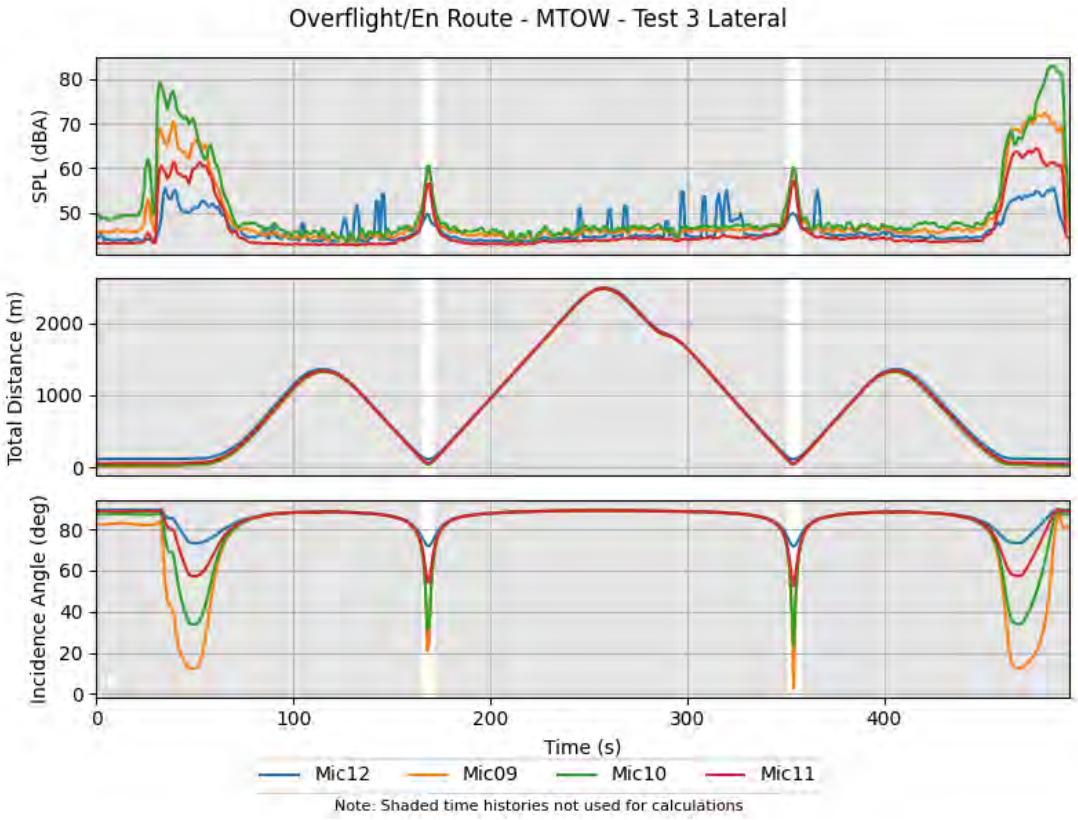

Overflight/En Route - Empty - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

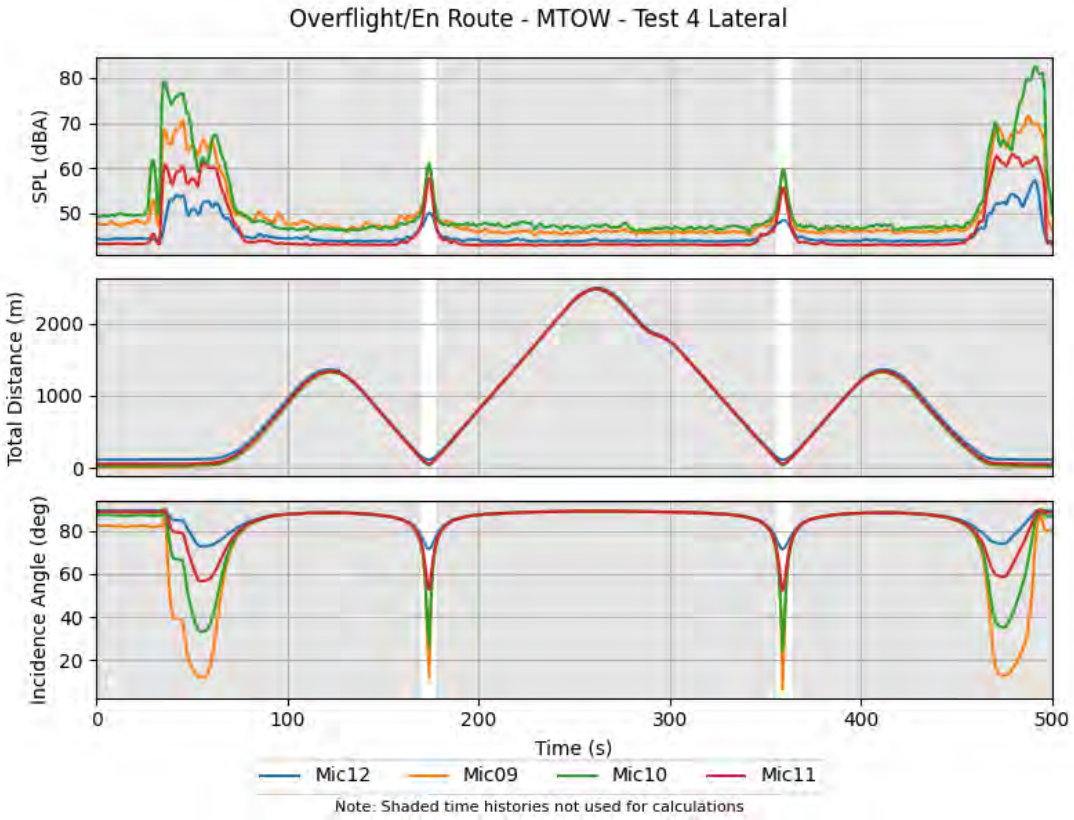

Overflight/En Route - Empty - Test 6 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

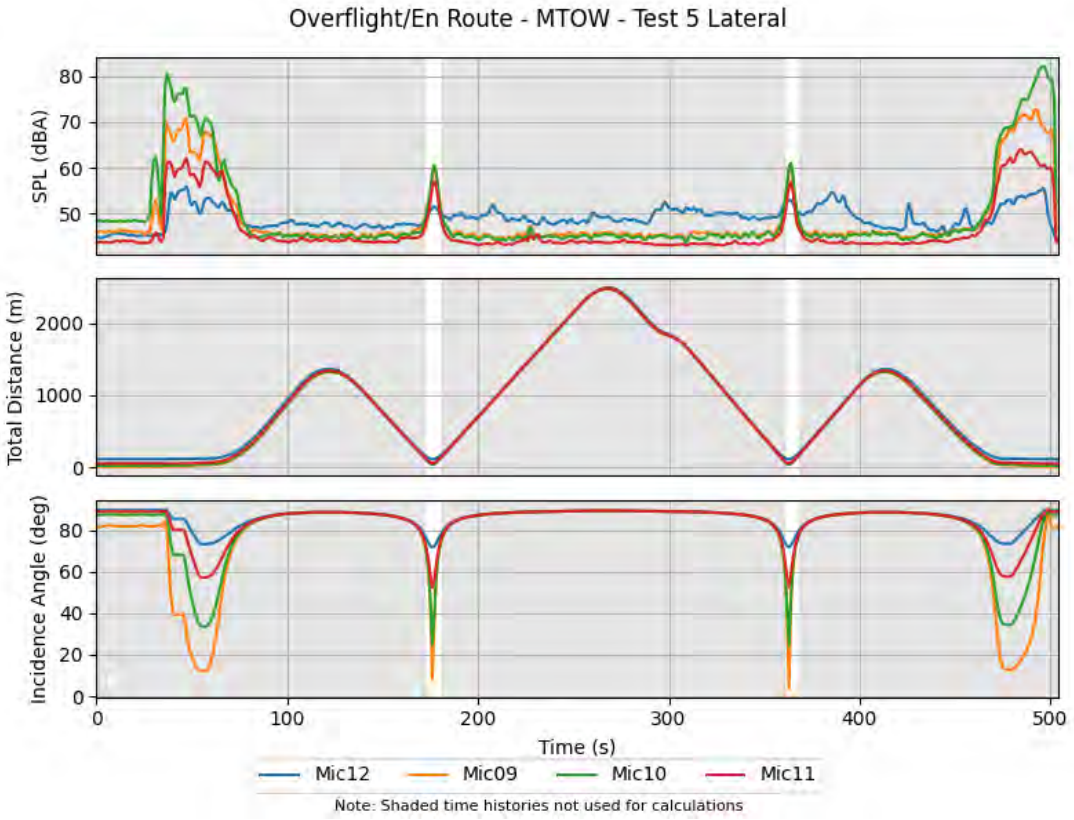

Overflight/En Route - Empty - Test 7 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

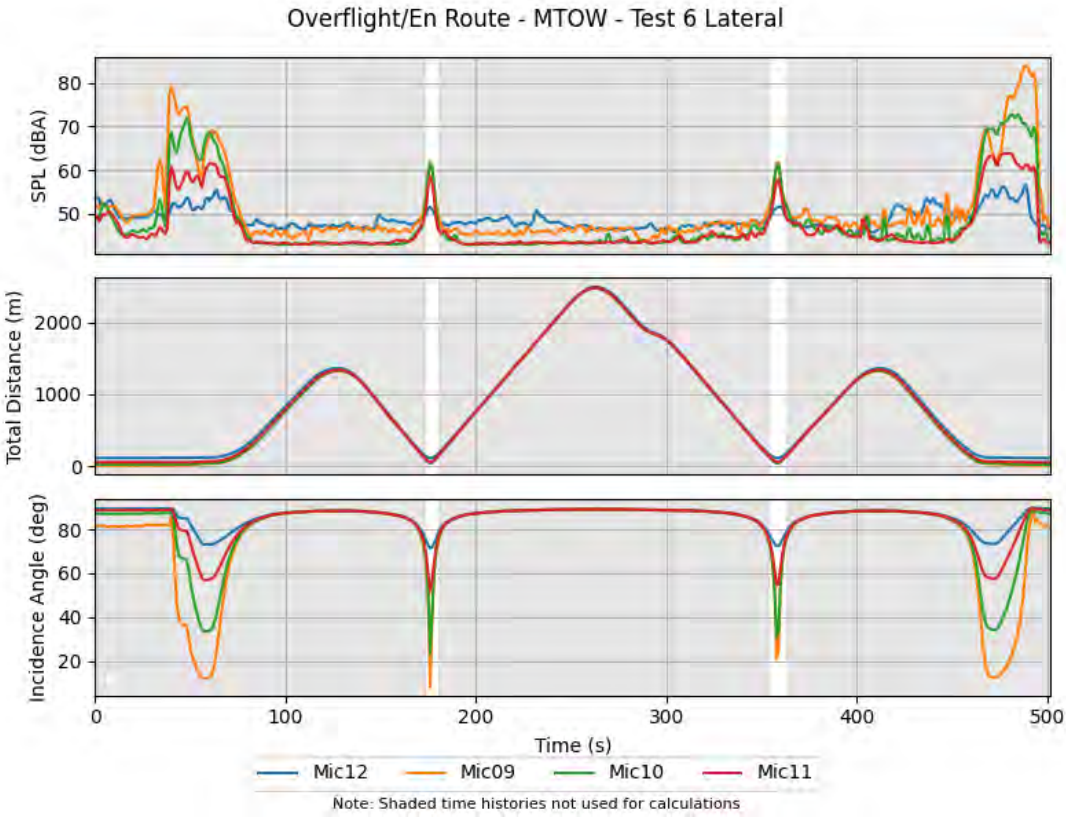

Overflight/En Route - MTOW - Test 1 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 2 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

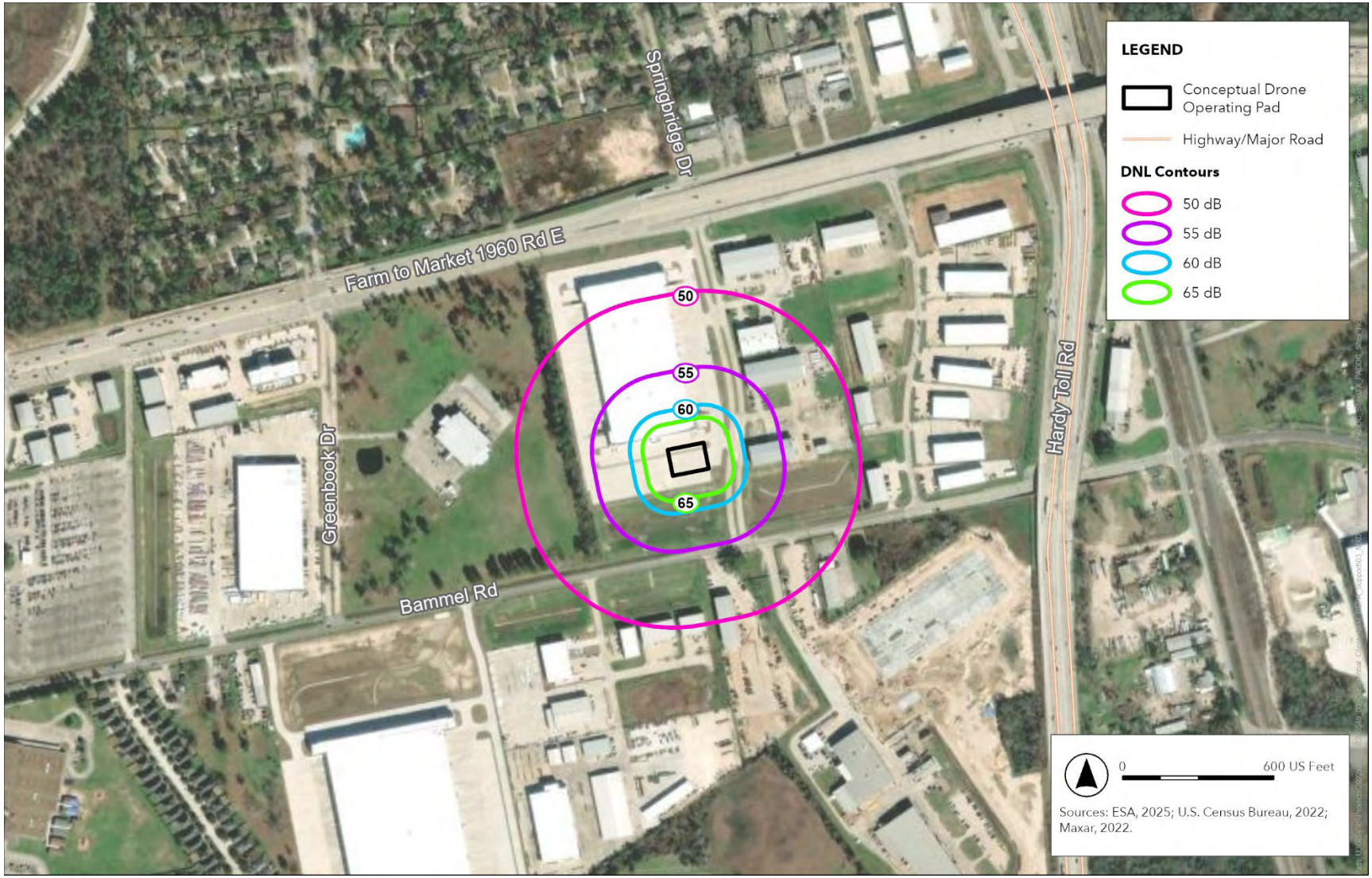

Overflight/En Route - MTOW - Test 3 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 4 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 5 Lateral
SPL (dBA)
Total Distance (m)
Incidence Angle (deg)
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations


Overflight/En Route - MTOW - Test 6 Lateral
SPL (dBA)
80
70
60
50
Total Distance (m)
2000
1000
0
Incidence Angle (deg)
80
60
40
20
0
100
200
300
400
500
Time (s)
Mic12
Mic09
Mic10
Mic11
Note: Shaded time histories not used for calculations

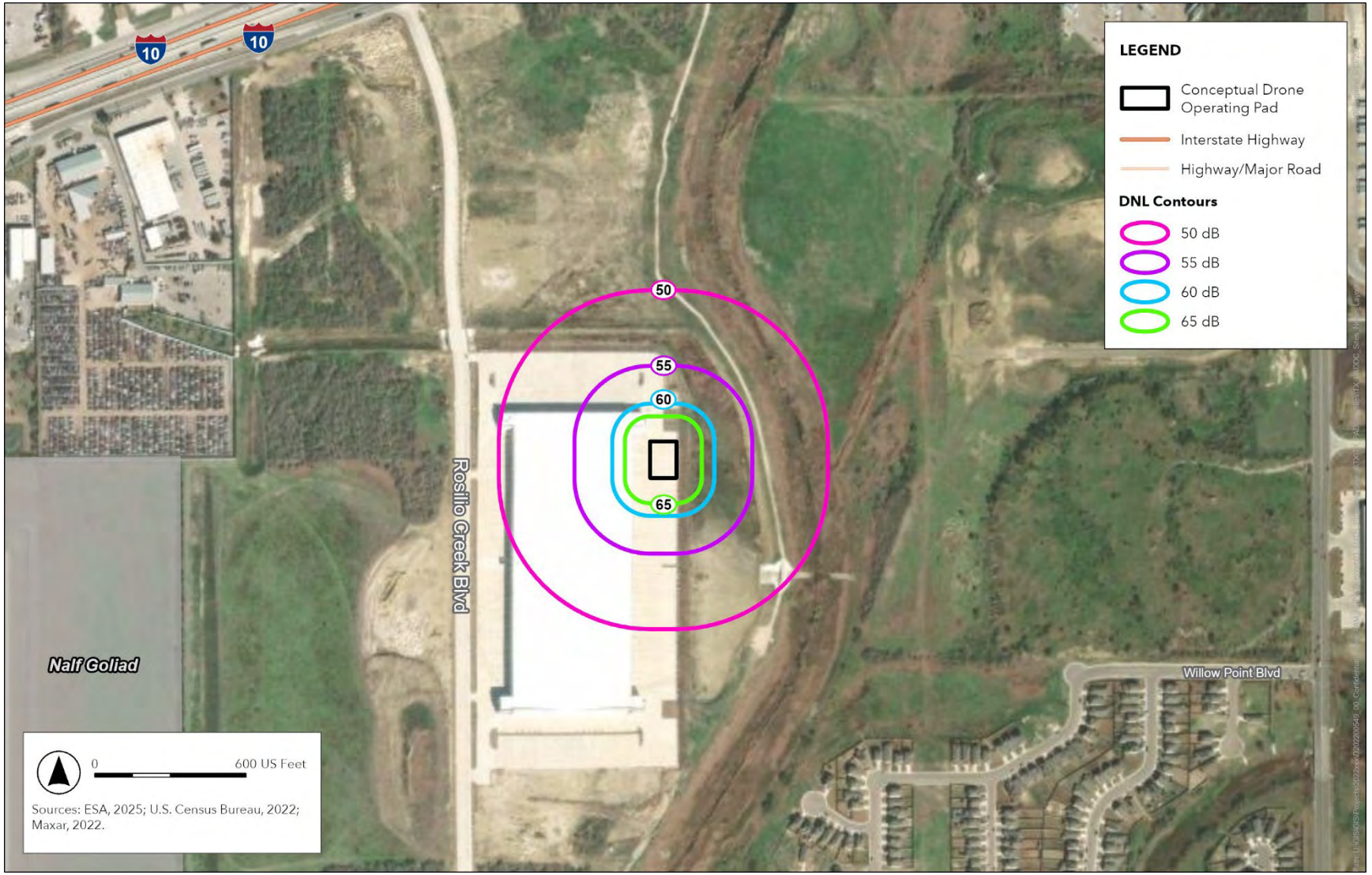
E-2 Noise Contour Figures



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-1

Noise Exposure Contours – SAH1 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

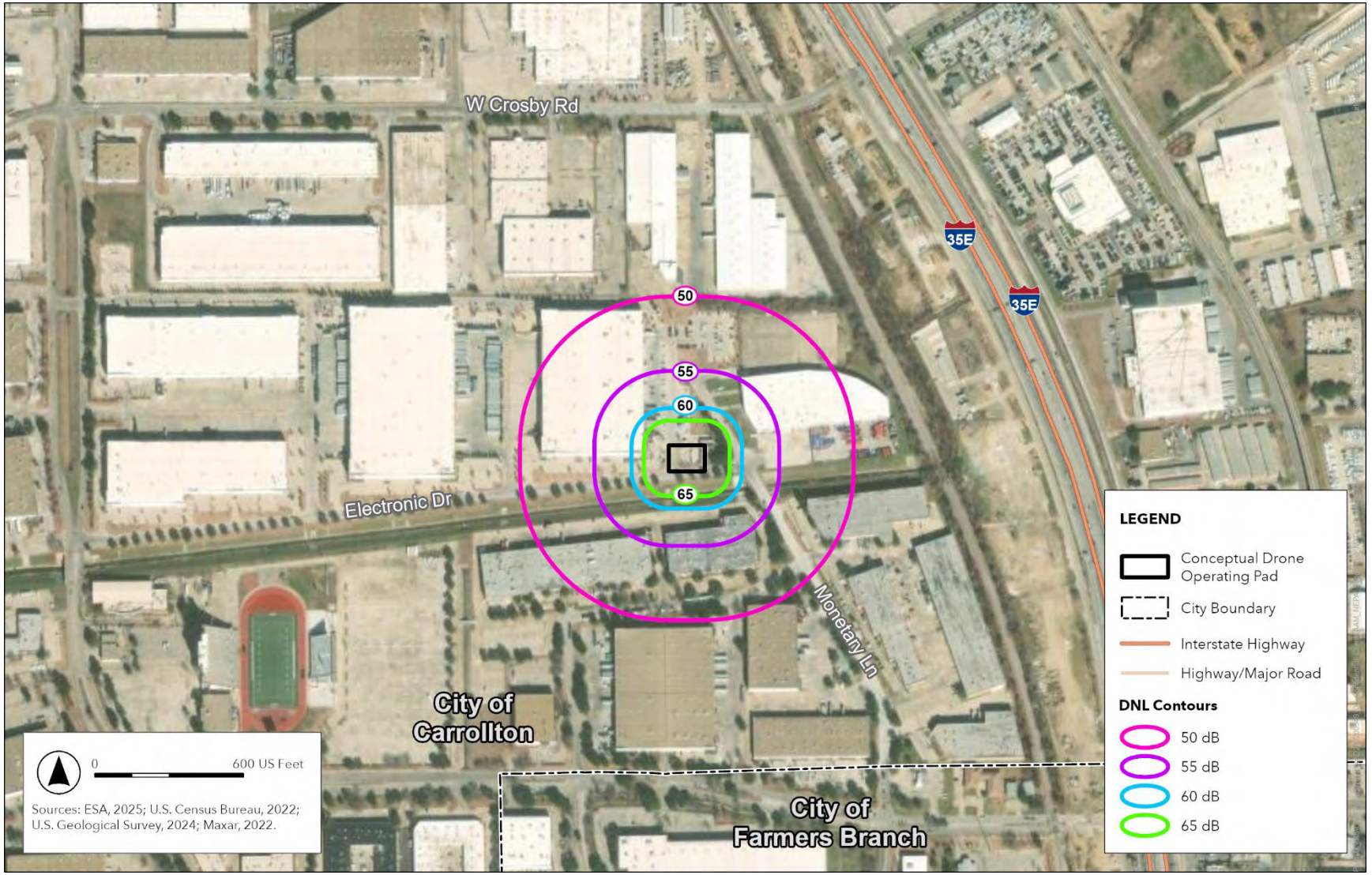
Figure E-2

Noise Exposure Contours – SAT1x PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-3

Noise Exposure Contours – SAHx PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

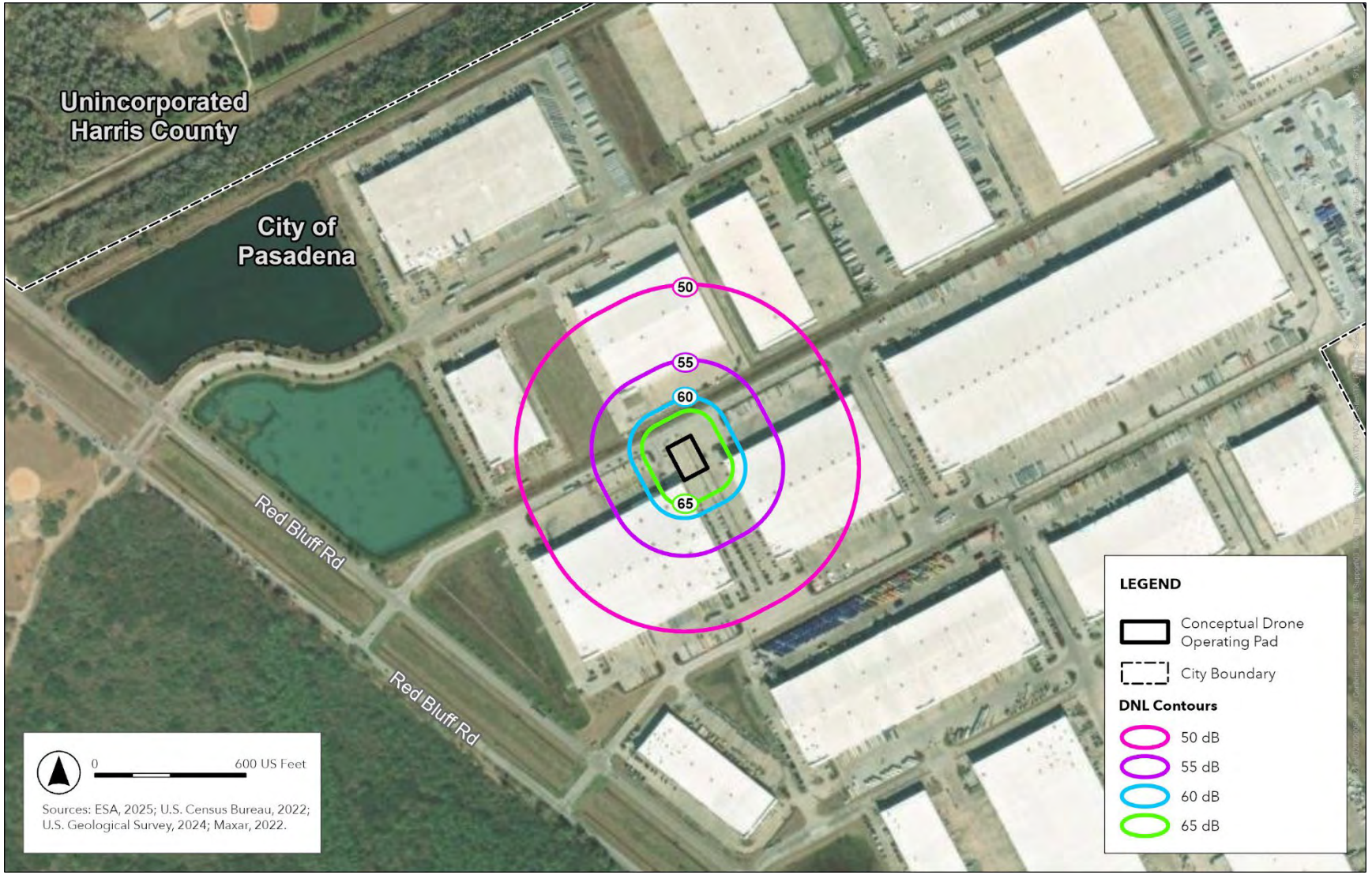
Figure E-4

Noise Exposure Contours – STX2 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-5

Noise Exposure Contours – STX3 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

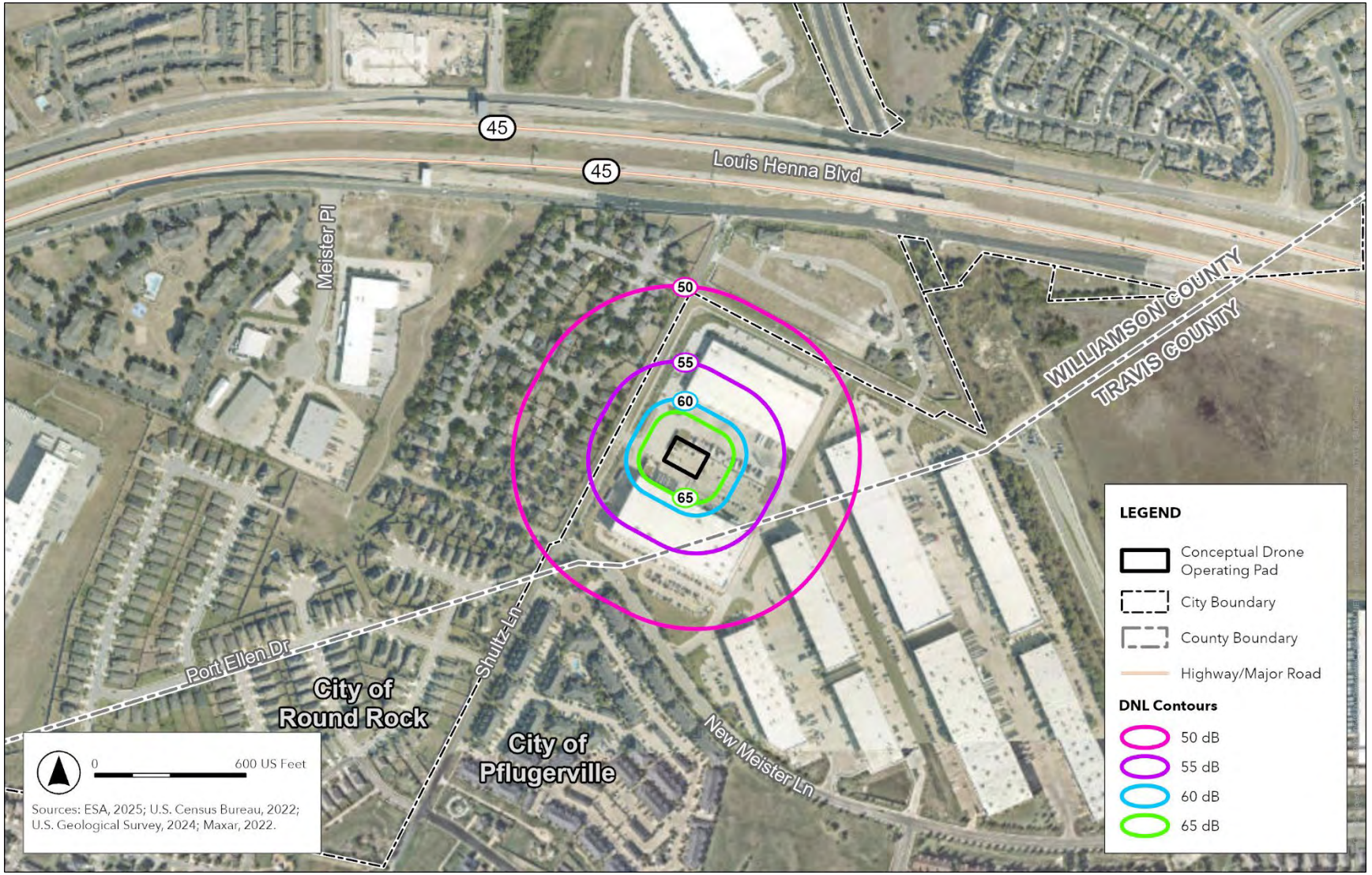
Figure E-6

Noise Exposure Contours – STX4 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-7

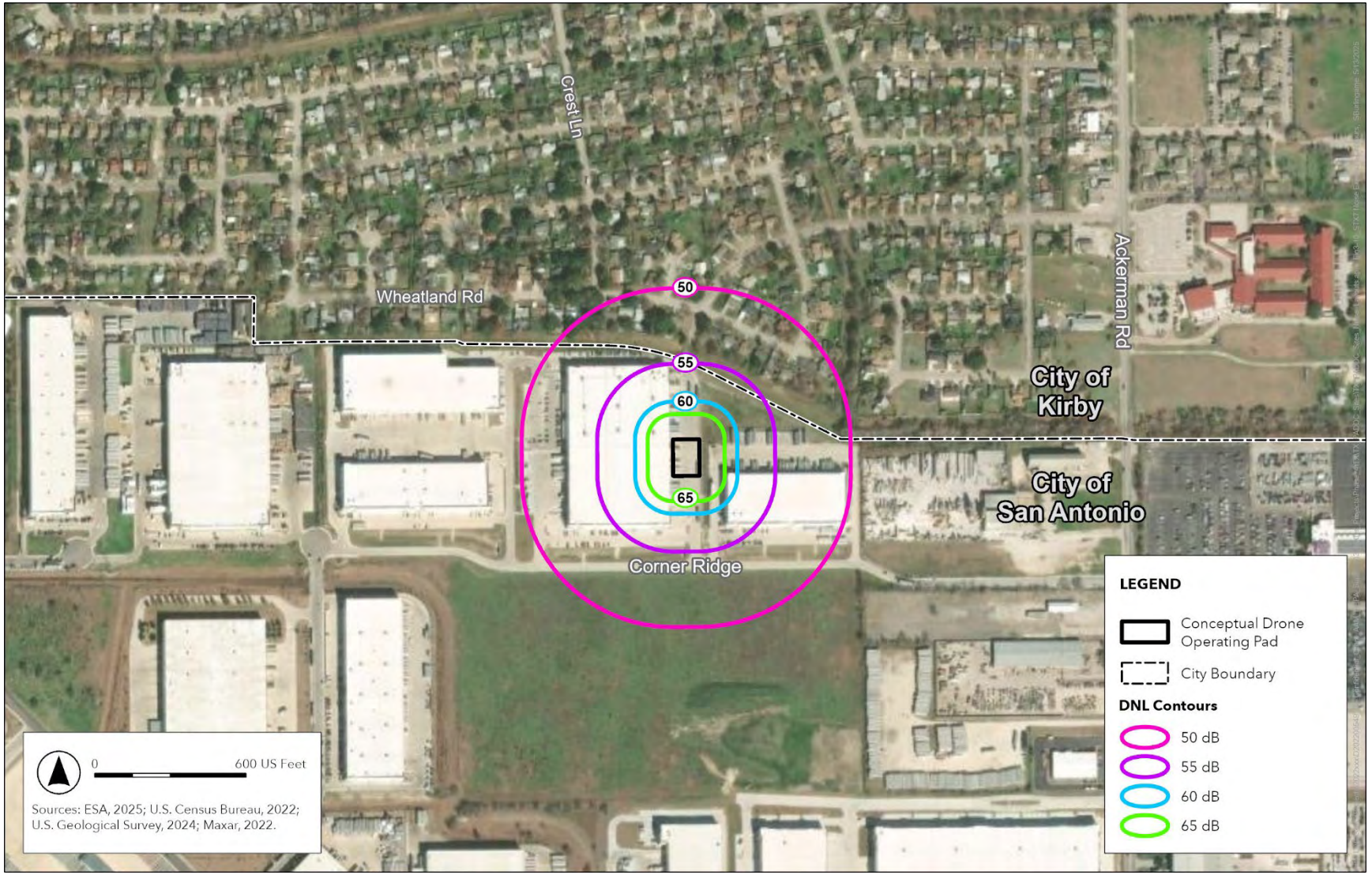
Noise Exposure Contours – STX5 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-8

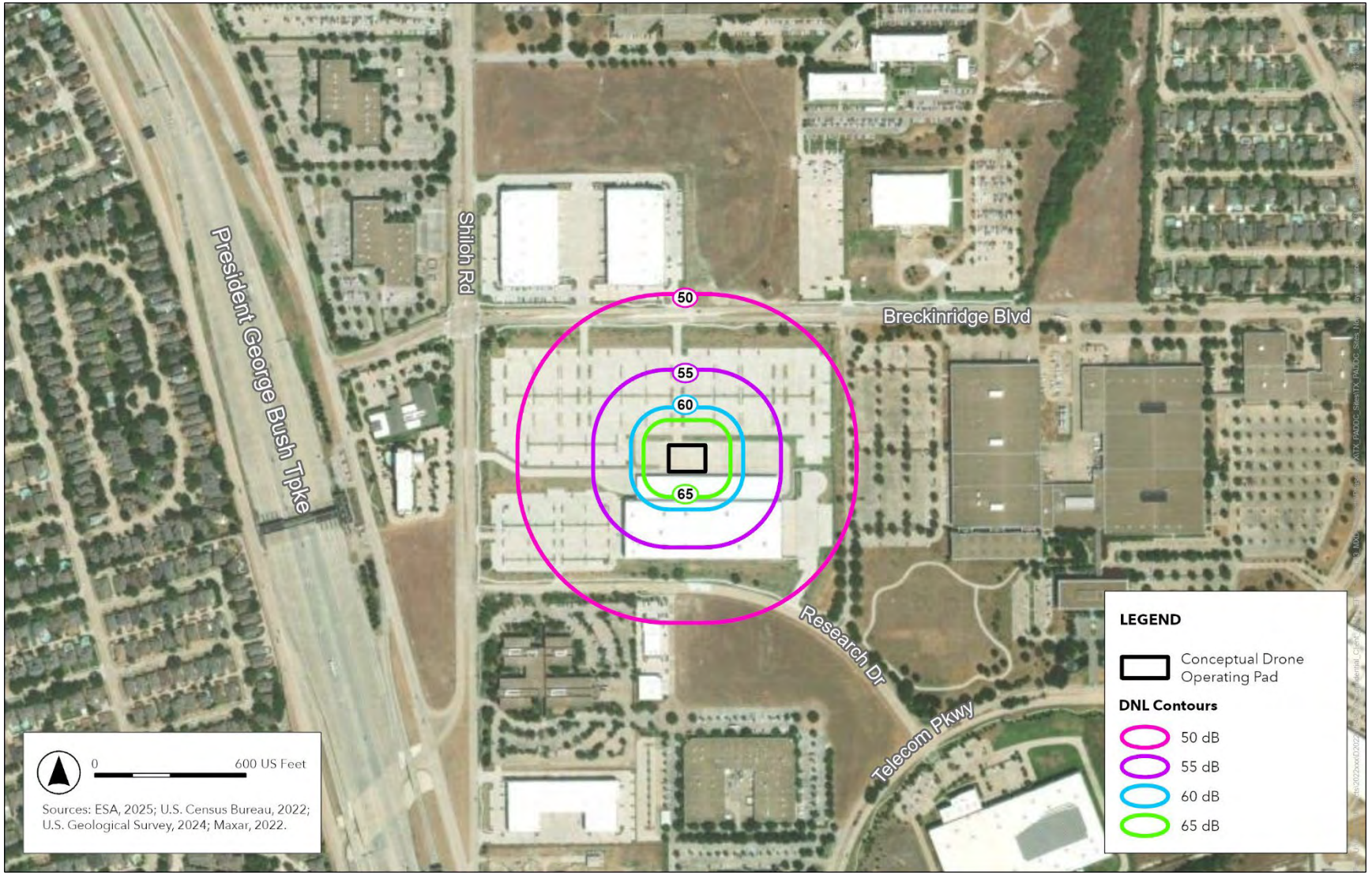
Noise Exposure Contours – STX6 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-9

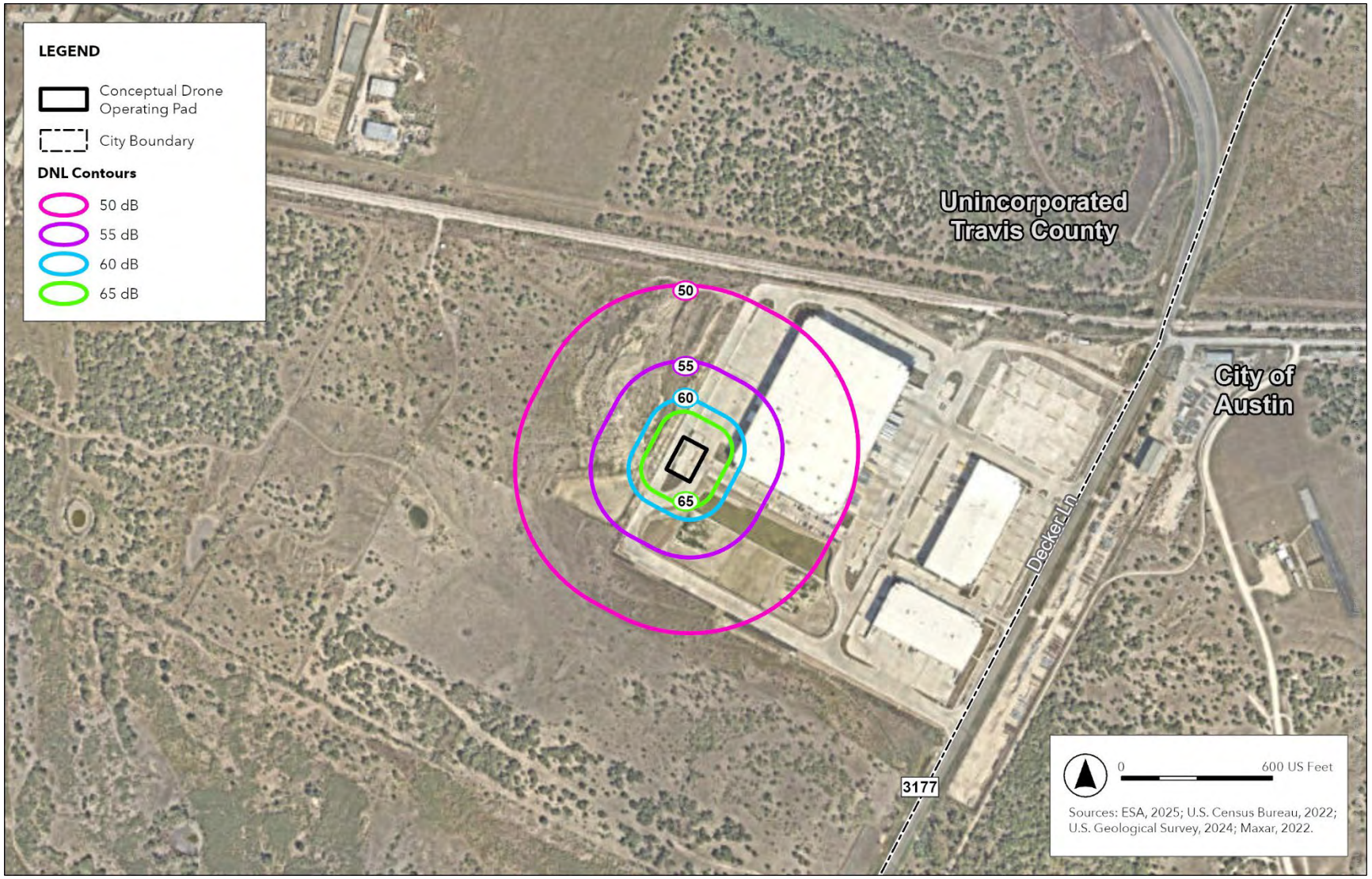
Noise Exposure Contours – STX7 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-10

Noise Exposure Contours – STX8 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

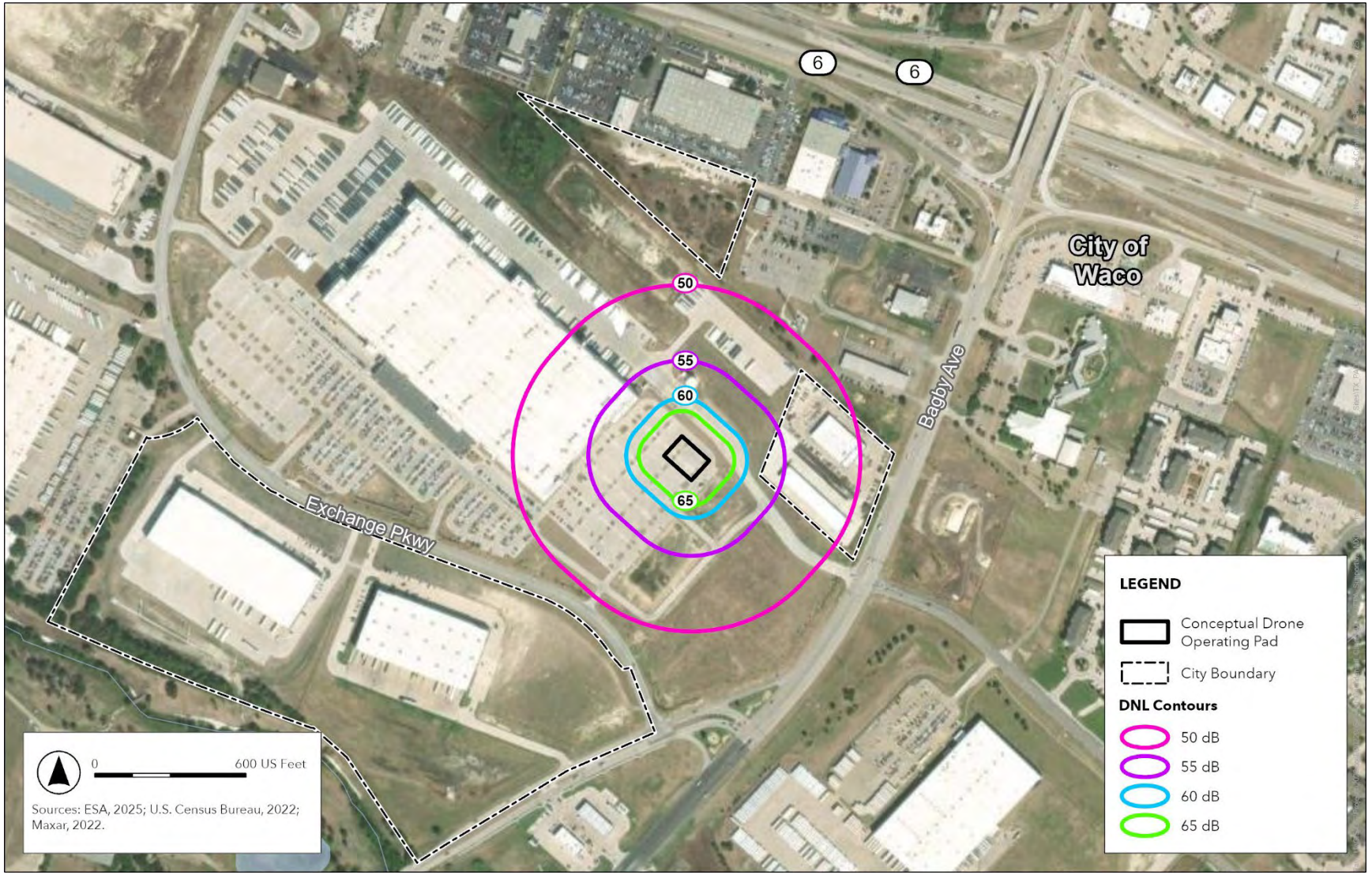
Figure E-11

Noise Exposure Contours – STX9 PADDC

SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-12

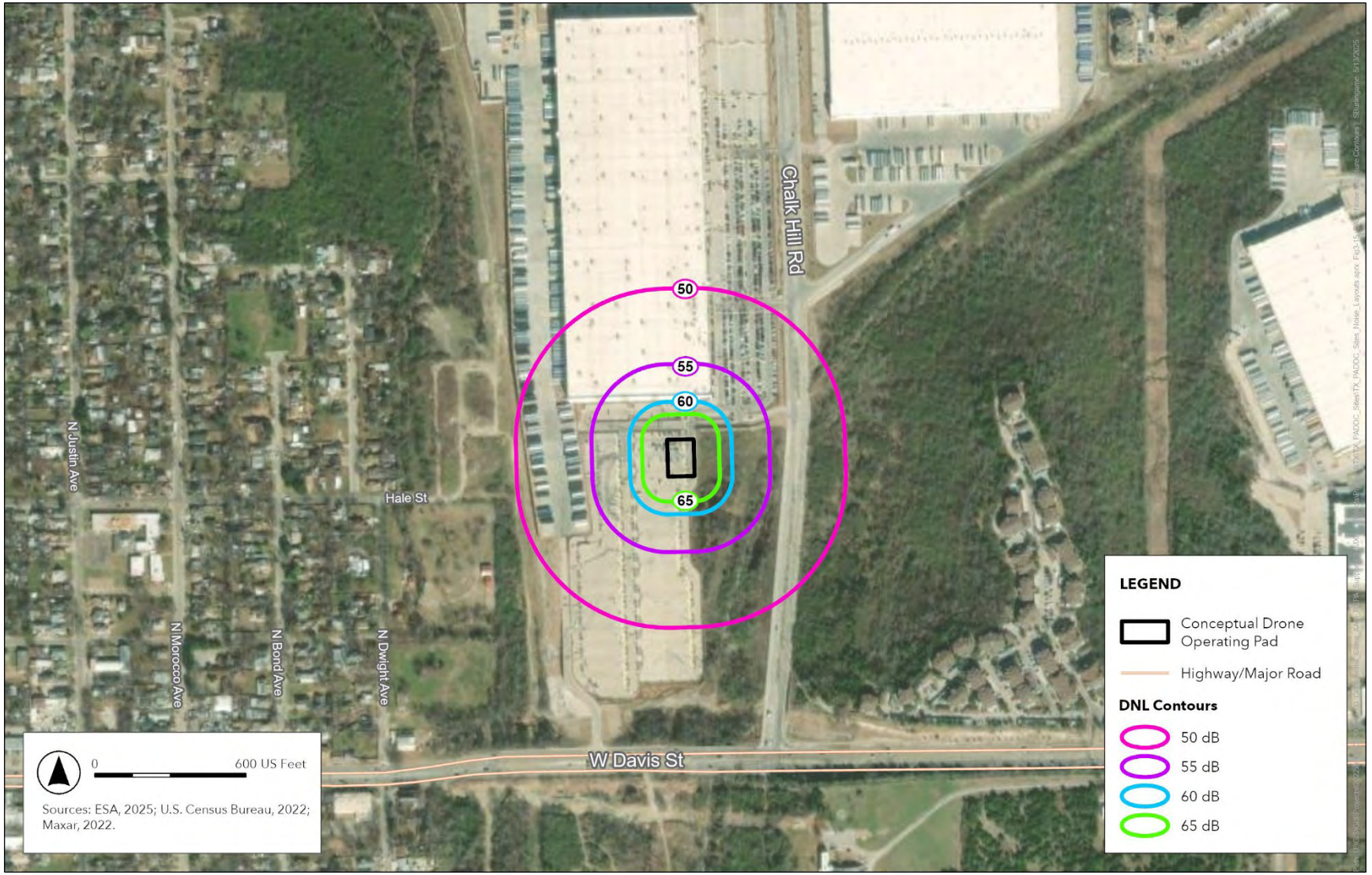
Noise Exposure Contours – AUS2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-13

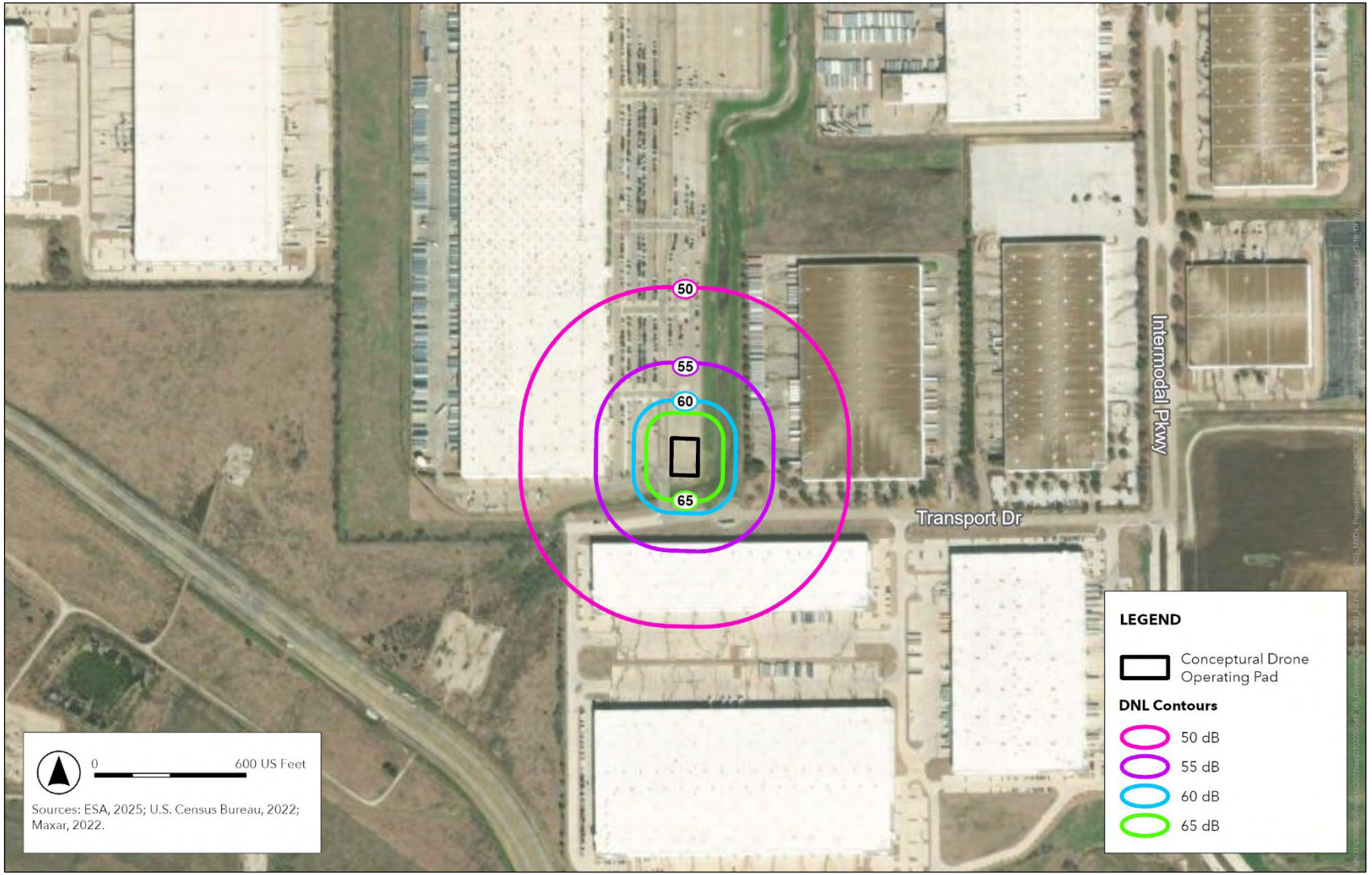
Noise Exposure Contours – AUS3 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-14

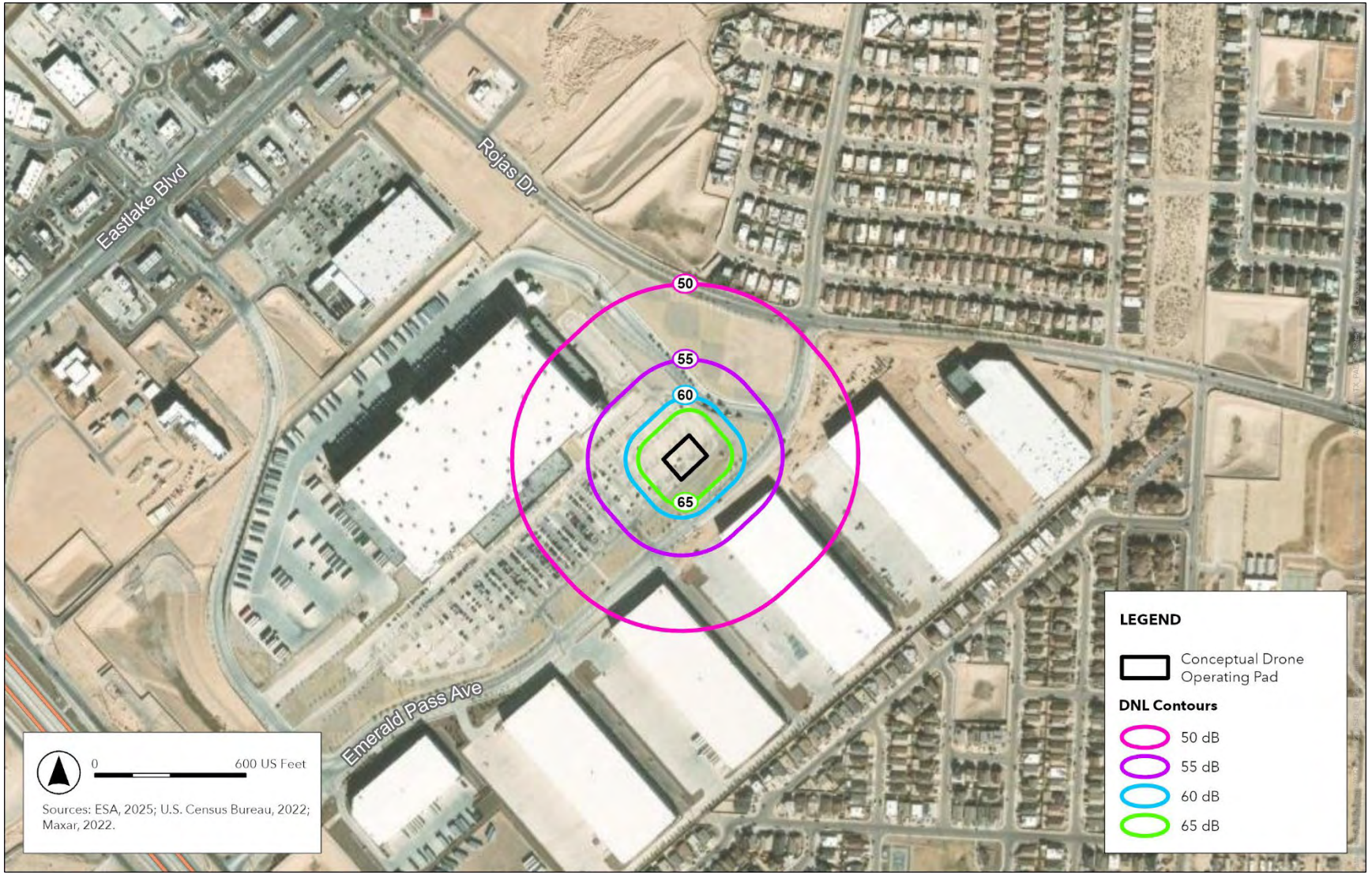
Noise Exposure Contours – DAL3 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-15

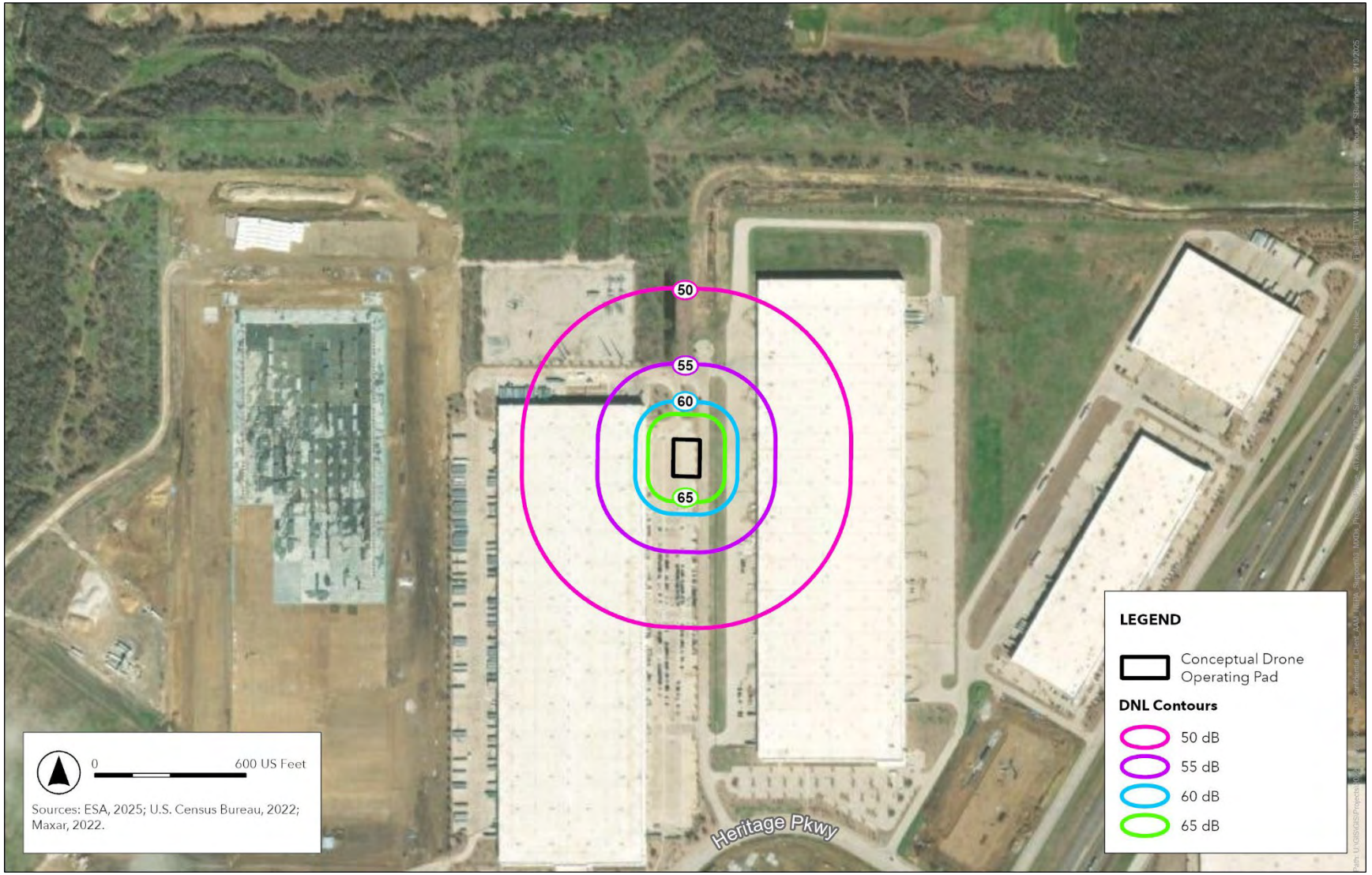
Noise Exposure Contours – DFW7 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2021; US Geological Survey, 2022.

Figure E-16

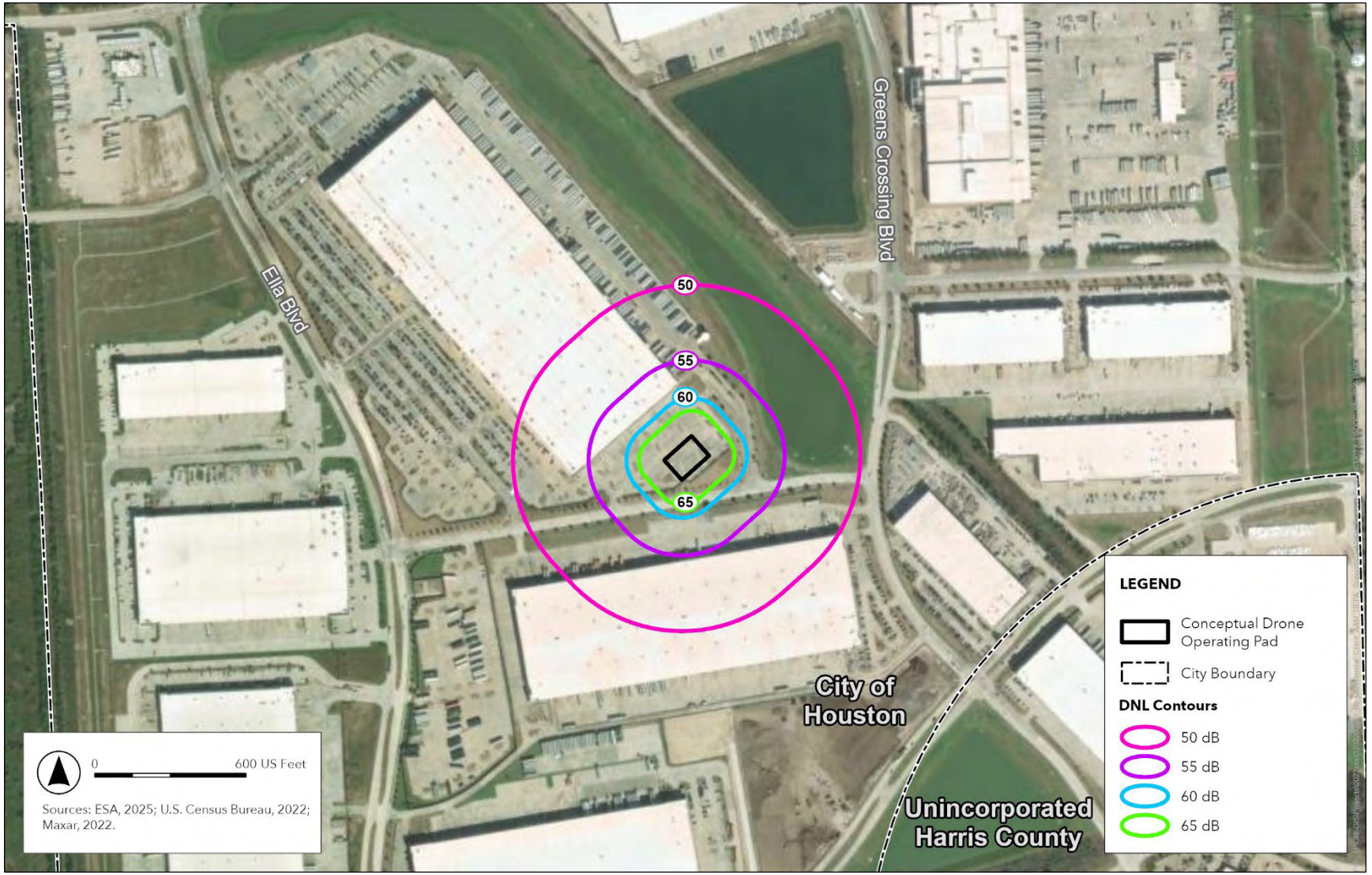
Noise Exposure Contours – ELP1 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-17

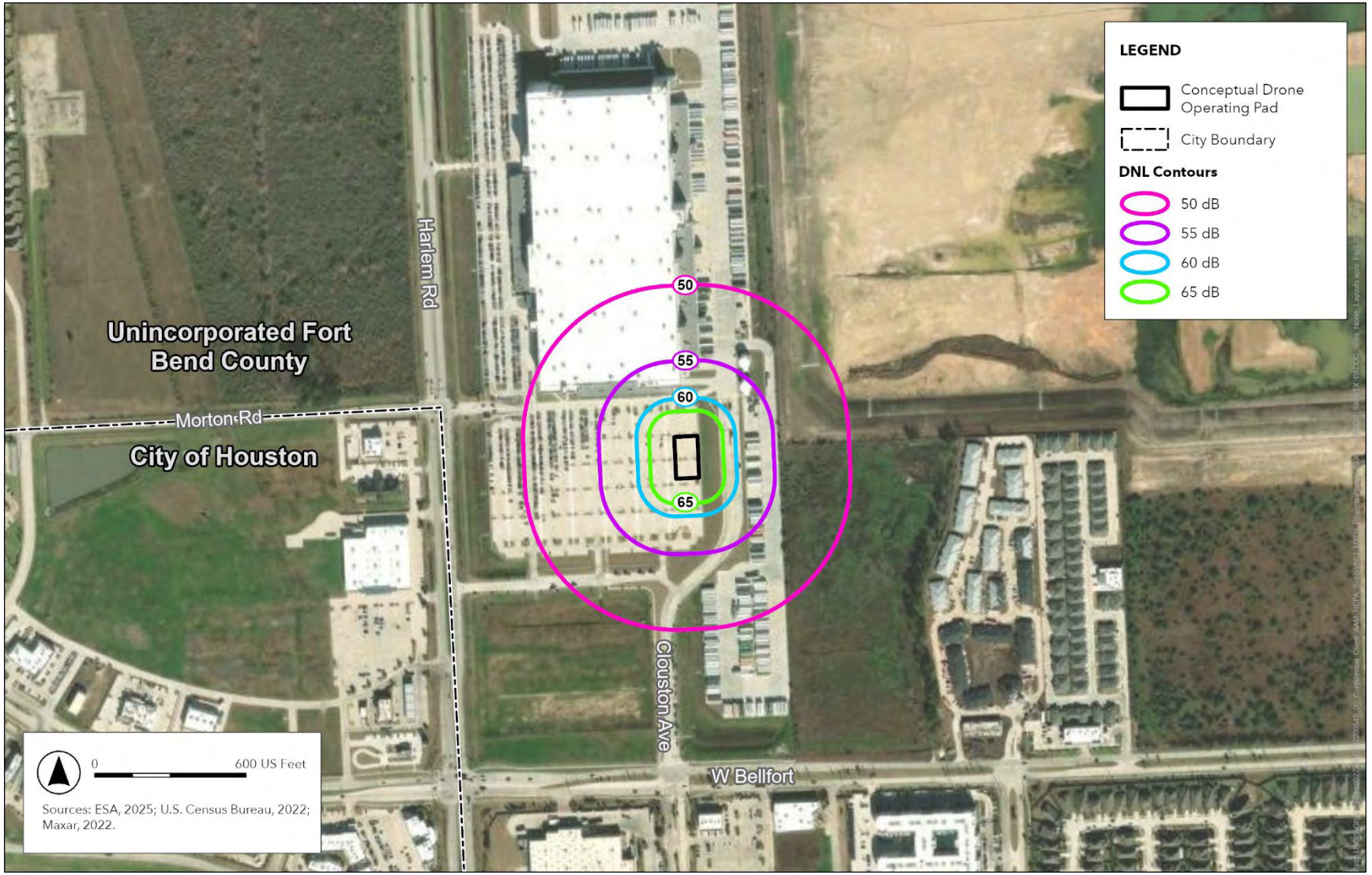
Noise Exposure Contours – FTW4 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-18

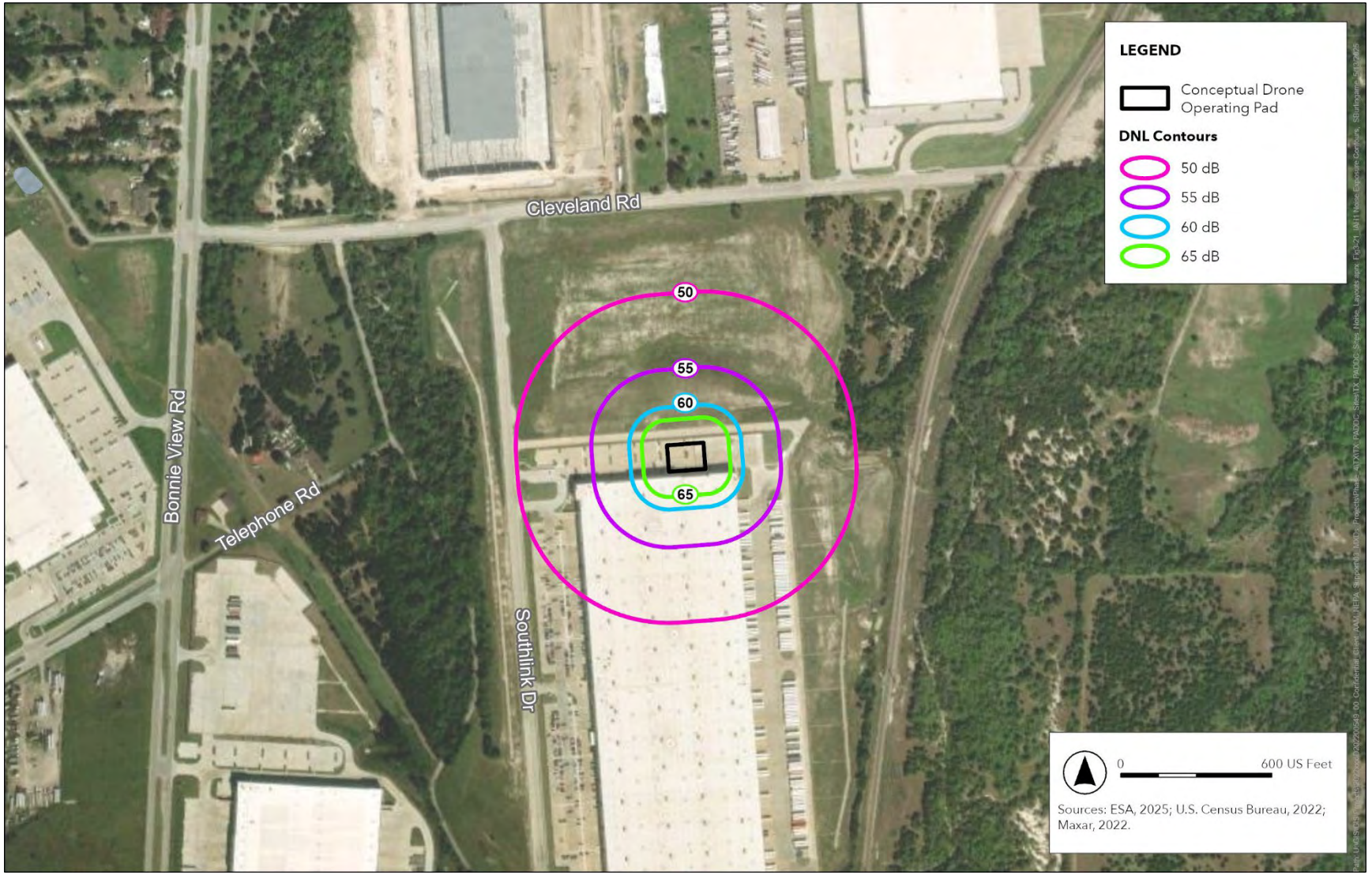
Noise Exposure Contours – HOU2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-19

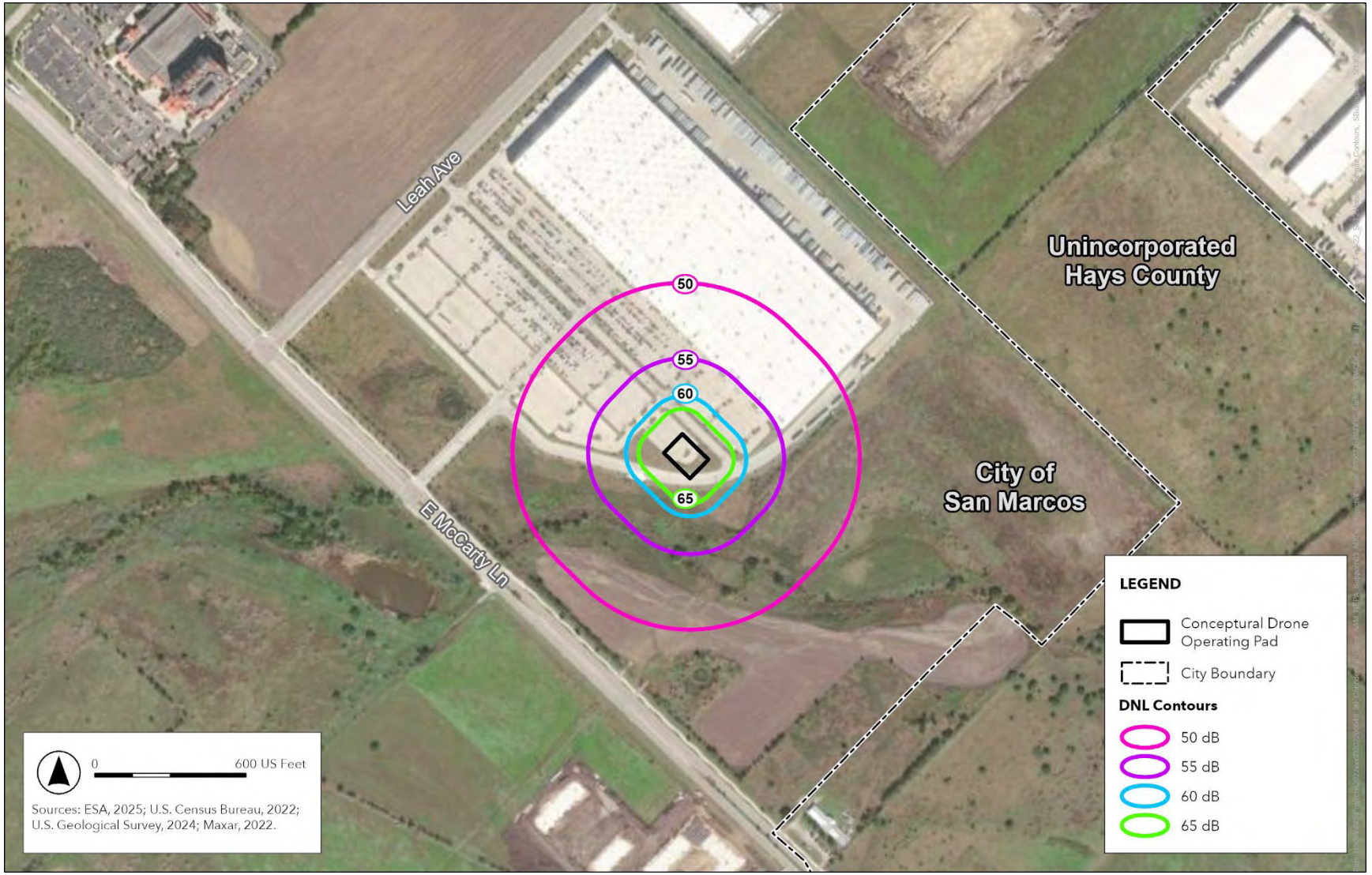
Noise Exposure Contours – HOU6 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-20

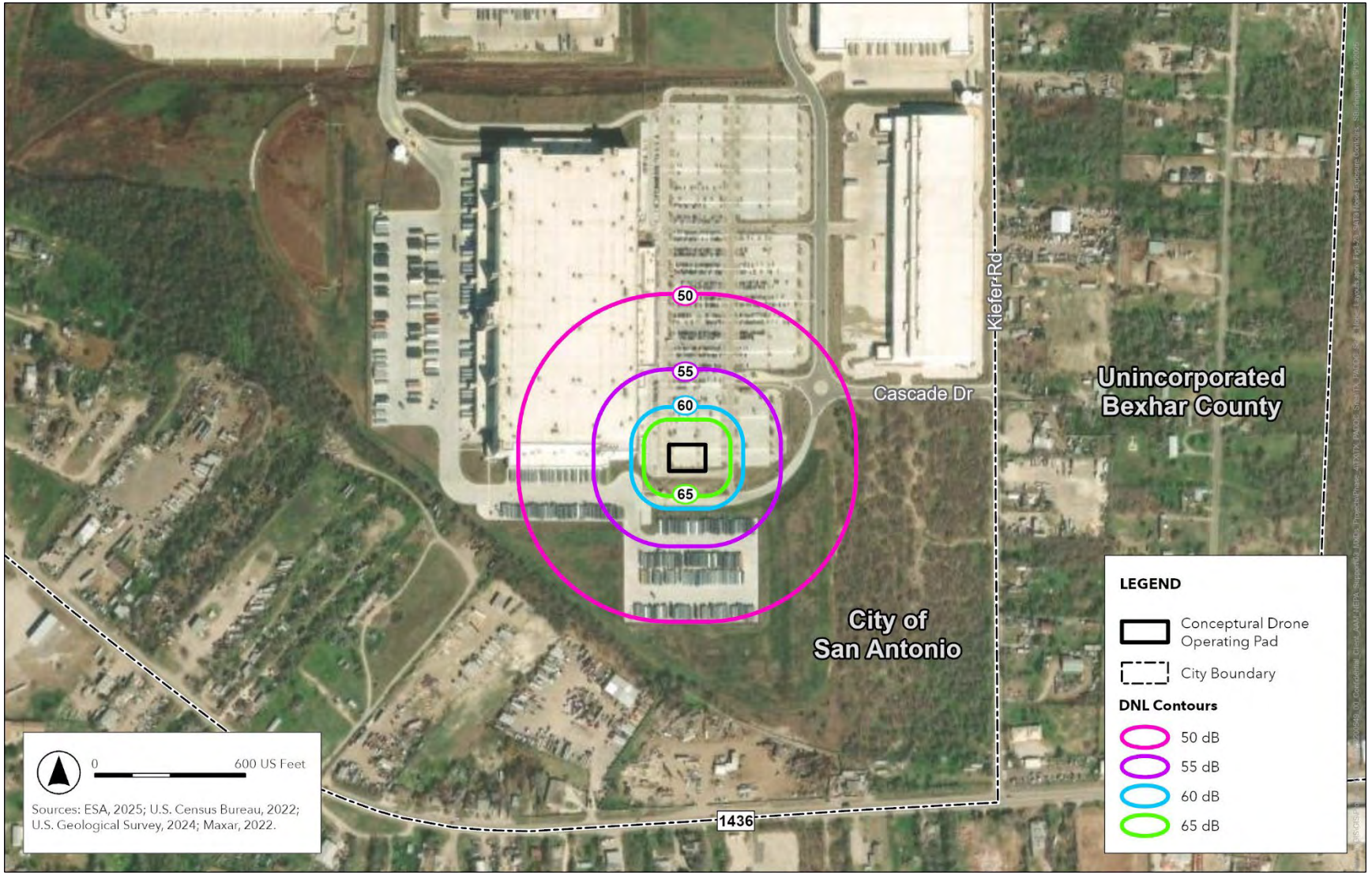
Noise Exposure Contours – IAH1 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-21

Noise Exposure Contours – SAT2 PADDC



SOURCE: ESA, 2025; Maxar, 2022; US Census Bureau, 2022; US Geological Survey, 2024.

Figure E-22

Noise Exposure Contours – SAT3 PADDC

Appendix F
Public Comments