



## 7.0 Land Use Compatibility

Land use compatibility for Airports and their surrounding environments is a significant component of the planning process. Successfully developing airports requires coordination among airport operators, state, city, and local governments to ensure any future development considers the needs of the surrounding populations.

Airport operators and municipalities are both responsible for the ongoing development of public assets that serve the greater public interest. City governments ensure the responsible development and enhancement of city infrastructure in the same way that airport operators oversee the development and enhancement of our nation's airport system. This coordination among airport operators and local governments is essential to ensure that any future project considers the land use consequences of decisions made regarding airport development.

This chapter evaluates the land use implications of the operation and development of the 2040 Long-Term Plan (LTP).

### 7.1 Land Use Compatibility

In 14 C.F.R. Part 150, the Federal Aviation Administration (FAA) has outlined criteria for land use compatibility, determining permissible land uses around airports through the assessment of noise impacts, measured in terms of Day-Night Sound Level (DNL). For airports located in the Minneapolis-Saint Paul Metropolitan Area, additional criteria also must be evaluated in relation to noise exposure as established by the Metropolitan Council's Transportation Policy Plan (TPP).

#### 7.1.1 FAA Land Use Compatibility Guidelines

Compatible land use under federal guidelines use aviation noise as a factor for allowable development near an airport. Independent efforts by the FAA, U.S. Department of Housing and Urban Development, U.S. Air Force, U.S. Navy, U.S. Environmental Protection Agency, and other Federal agencies to develop compatible land use criteria were melded into a single effort by the Federal Interagency Committee on Urban Noise (FICUN) in 1979. The combination of criteria were codified in the FICUN guidelines document in 1980. The guidelines document adopted DNL as its standard noise descriptor, and the Standard Land Use Coding Manual (SLUCM) as its standard descriptor for land uses. The noise-to-land use relationships were then expanded for the FAA's Advisory Circular Airport-Land Use Compatibility Planning. The current individual agency compatible land use criteria have been, for the most part, derived from those in the FICUN Guidelines. Airport environments pertain only to certain categories of these guidelines.<sup>19</sup>

In 1985 the FAA adopted 14 C.F.R. Part 150 outlining land use compatibility guidelines around airports. **Table 7.1** provides the land use compatibility guidelines as established by the FAA. According to FAA standards, areas with noise levels less than 65 DNL are considered compatible with residential development.

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<sup>19</sup> Federal Interagency Committee on Noise (FICON), "Federal Agency Review of Selected Airport Noise Analysis Issues," (1992), pp. 2-6 to 2-7.



Table 7.1: FAA Aircraft Noise and Land Use Compatibility\* Guidelines

LAND USE	DNL CONTOUR INTERVAL (DB)					
	<65	65-70	70-75	75-80	80-85	>85
<b>Residential Use</b>						
Residential, other than mobile homes and transient lodgings	Y	N(a)	N(a)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(a)	N(a)	N(a)	N	N
<b>Public Use</b>						
Schools	Y	N(a)	N(a)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(b)	Y(c)	Y(d)	Y(d)
Parking	Y	Y	Y(b)	Y(c)	Y(d)	N
<b>Commercial Use</b>						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware, and farm equipment	Y	Y	Y(b)	Y(c)	Y(d)	N
Retail trade--general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(b)	Y(c)	Y(d)	N
Communication	Y	Y	25	30	N	N
<b>Manufacturing and Production</b>						
Manufacturing, general	Y	Y	Y(b)	Y(c)	Y(d)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(f)	Y(g)	Y(h)	Y(h)	Y(h)
Livestock farming and breeding	Y	Y(f)	Y(g)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
<b>Recreational</b>						
Outdoor sports arenas and spectator sports	Y	Y(e)	Y(e)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N
<b>Key to Table 7.1</b>						
SLUCM	Standard Land Use Coding Manual					
Y(Yes)	Land use and related structures compatible without restrictions.					
N(No)	Land use and related structures are not compatible and should be prohibited.					
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.					
25, 30, or 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.					



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**Notes:** The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute Federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

(a) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(b) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas or where the normal noise level is low.

(c) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas or where the normal noise level is low.

(d) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas or where the normal noise level is low.

(e) Land use compatible provided special sound reinforcement systems are installed.

(f) Residential buildings require an NLR of 25.

(g) Residential buildings require an NLR of 30.

(h) Residential buildings not permitted.

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*Source: 14 Code of Federal Regulations Part 150, Airport Noise Compatibility Planning, Appendix A, Table 1.*

### 7.1.2 Metropolitan Council Land Use Compatibility Guidelines

The Metropolitan Council has developed a set of land-use planning guidelines for responsible community development in the Minneapolis-Saint Paul Metropolitan Area. The intent is to provide city governments with a comprehensive resource for planning and community development in a manner that considers the adequacy, quality, and environmental elements of planned land uses.

In 1976 the Minnesota Legislature enacted the Minnesota State Land Planning Act, the underlying law that requires local units of government to prepare a comprehensive plan and submit it for Metropolitan Council review. Under the 1976 legislation, communities designated land uses and defined the zoning applicable to the land use parcel. Zoning was the statute's priority. The land use measure was a request that local jurisdictions review existing zoning in Airport Noise Zones to determine consistency with the regional compatibility guidelines and rezone property for compatible development if consistent with other development factors. In 1977, the Metropolitan Council also updated the 1973 Aviation Chapter of the Metropolitan Development Guide. In 1983, the Metropolitan Council amended its Aviation Policy Plan to include "Land Use Compatibility Guidelines for Aircraft Noise."

In 1994 the Minnesota Legislature amended the Land Planning Act to require that communities update their comprehensive plans at least every 10 years. As a result, all Metropolitan Development Guide chapters were updated by December 1996. Under the amended Land Planning Act, communities determine the land use designation; zoning must be consistent with that designation. Thus, the



communities had to re-evaluate designated use, permitted uses within the designation, zoning classifications, and adequacy.

In 2004 the Metropolitan Council incorporated its Aviation Policy Plan into the Transportation Policy Plan (TPP) of the Metropolitan Development Guide. It was updated in January 2009. Land use compatibility guidelines for all metropolitan system airports are included in the TPP. The 2040 TPP was adopted in 2015 and amended in 2020. The TPP considered noise exposure associated with airports located in the Minneapolis-St. Paul Metropolitan Area and provided land use guidelines based on four noise zones around an airport. The following is the Metropolitan Council's description of each noise zone:

- **Zone 1** – Occurs on and immediately adjacent to the airport property. Existing and projected noise intensity in the zone is severe and permanent. It is an area affected by frequent landings and takeoffs and subjected to aircraft noise greater than 75 DNL. Proximity of the airfield operating area, particularly runway thresholds, reduces the probability of relief resulting from changes in the operating characteristics of either the aircraft or the airport. Only new, non-sensitive, land uses should be considered. In addition to preventing future noise problems, the severely noise impacted areas should be fully evaluated to determine alternative land use strategies, including eventual changes in existing land uses.<sup>20</sup>
- **Zone 2** – Noise impacts are generally sustained, especially close to the ends of runways. Noise levels are in the 70 to 74 DNL range. Based upon proximity to the airfield, the seriousness of the noise exposure routinely interferes with sleep and speech activity. The noise intensity in this area is generally serious and continuing. New development should be limited to uses that have been constructed to achieve certain exterior-to-interior noise attenuation and that discourage certain outdoor uses.<sup>21</sup>
- **Zone 3** – Noise impacts can be categorized as sustaining. Noise levels are in the 65 to 69 DNL range. In addition to the intensity of the noise, location of buildings receiving the noise must also be fully considered. Aircraft and runway use operational changes can provide some relief for certain uses in this area. Residential development may be acceptable if it is located outside areas exposed to frequent landings and takeoffs, is constructed to achieve certain exterior-to-interior noise attenuation and is restrictive as to outdoor use. Certain medical and educational facilities that involve permanent lodging and outdoor use should be discouraged.<sup>22</sup>
- **Zone 4** – Defined as a transitional area where noise exposure might be considered moderate. Noise levels are in the 60 to 64 DNL range. The area is considered transitional since potential changes in airport and aircraft operating procedures could lower or raise noise levels. Development in this area can benefit from insulation levels above typical new construction standards in Minnesota, but insulation cannot eliminate outdoor noise problems.<sup>23</sup>
- **Noise Buffer Zones** – Additional area that can be protected at the option of the affected community; generally, the buffer zone becomes an extension of Noise Zone 4. At MSP, a one-mile buffer zone beyond the DNL 60 has been established to address the range of variability in noise impact, by allowing implementation of additional local noise mitigation efforts. A buffer zone, out

<sup>20</sup> Metropolitan Council 2040 Transportation Policy Plan – 2020 Update, Appendix L, 2020.

<sup>21</sup> Metropolitan Council 2040 Transportation Policy Plan – 2020 Update, Appendix L, 2020.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.



to DNL 55 is optional at those reliever airports with noise policy areas outside the Metropolitan Urban Service Area (MUSA).<sup>24</sup>

The listed Metropolitan Council noise zones also use the DNL noise exposure metric. The Metropolitan Council Land Use Compatibility Guidelines for Aircraft Noise are provided in **Table 7.2**.

The Metropolitan Council suggests that the 60 DNL contour be used for planning purposes in areas inside the MUSA.

**Table 7.2: Metropolitan County Land Use Compatibility Guidelines for Aircraft Noise**

TYPE OF DEVELOPMENT	NOISE EXPOSURE ZONES									
	NEW DEVELOPMENT OR MAJOR REDEVELOPMENT					INFILL RECONSTRUCTION OR ADDITIONS TO EXISTING STRUCTURES				
Land Use Category	1 DNL 75+	2 DNL 74-70	3 DNL 69-65	4 DNL 64-60	BZ	1 DNL 75+	2 DNL 74-70	3 DNL 69-65	4 DNL 64-60	BZ
<b>Residential</b>										
Single / Multiplex with Individual Entrance	INCO	INCO	INCO	INCO		COND	COND	COND	COND	
Multiplex / Apartment with Shared Entrance	INCO	INCO	COND	PROV		COND	COND	PROV	PROV	
Mobile Home	INCO	INCO	INCO	COND		COND	COND	COND	COND	
<b>Educational, Medical, Schools, Churches, Hospitals, Nursing Homes</b>	INCO	INCO	INCO	COND		COND	COND	COND	PROV	
<b>Cultural, Entertainment, Recreational</b>										
Indoor	COND	COND	COND	PROV		COND	COND	COND	PROV	
Outdoor	COND	COND	COND	COND		COND	COND	COND	COMP	
<b>Office, Commercial, Retail</b>	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
<b>Services</b>										
Transportation-Passenger Facilities	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Transient Lodging	INCO	COND	PROV	PROV		COND	COND	PROV	PROV	
Other medical, Health & Educational	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
Other Services	COND	PROV	PROV	COMP		COND	PROV	PROV	COMP	
<b>Industrial, Communication, Utility</b>	PROV	COMP	COMP	COMP		PROV	COMP	COMP	COMP	
<b>Agriculture, Land/Water Areas, Resource Extraction</b>	COMP	COMP	COMP	COMP		COMP	COMP	COMP	COMP	

**Notes:**

COMP/Compatible – uses that are acoustically acceptable for both indoors and outdoors.

<sup>24</sup> Ibid.



PROV/Provisional – uses that should be discouraged if at all feasible; if allowed, uses must meet certain structural performance standards to be acceptable according to MS 473.192 (Metropolitan Area Noise Attenuation Act). Structures built after December 1983 shall be acoustically constructed to achieve the interior sound levels described in Metropolitan Council’s 2040 Transportation Policy Plan, Appendix L, Table L-4. Each local governmental unit having land within the airport noise zones is responsible for implementing and enforcing the structure performance standards in its jurisdiction.

COND/Conditional – uses that should be strongly discouraged; if allowed, must meet the structural performance standards, and requires a comprehensive plan amendment for review of the project under the factors described in Metropolitan Council’s 2040 Transportation Policy Plan, Appendix L, Table L-3.

INCO/Incompatible – uses that are not acceptable even if acoustical treatment were incorporated into the structure and outside uses restricted.

Source: Metropolitan Council, Transportation Policy Plan, 2020 Update to the 2040 TPP, Appendix L: Aviation Land Use Compatibility Guidelines, Table L-3

## 7.2 Runway Safety Zoning Considerations

At the Federal level, the FAA is the agency primarily responsible for land use compatibility around airports. Although the FAA does not play a direct role in the zoning and land use planning practices around United States airports, it provides critical land use planning guidance, technical assistance, and funding to airports. In this capacity, the FAA issues a variety of regulations and guidance documents under federal law that affect land use planning around airports.

FAA land use guidance focuses on two areas: (1) runway protection zones; and (2) airspace protection.

### 7.2.1 Federal Runway Protection Zones

**Runway** Protection Zones (RPZs) are defined in FAA Advisory Circular 150/5300-13, Airport Design. RPZs are trapezoid shapes centered on the approximate extended runway centerline radiating from the end of a runway. The dimensions of an RPZ are a function of the type of aircraft using the runway and approach visibility minimums associated with the runway end. The intent of RPZs is to provide safety for people and property on the ground in the vicinity of runway ends at airports. The FAA accomplishes this goal through land use controls in RPZs designed to maintain areas near the ends of airport runways that are free of **incompatible** objects and activities.

### 7.2.2 Federal Airspace Protection

Federal Aviation Regulation *Part 77, Objects Affecting Navigable Airspace*, establishes standards for determining obstructions to navigable airspace and the effects of such obstructions on the safe and efficient use of that airspace.

The height limitations associated with Part 77 are defined in terms of imaginary surfaces in the airspace surrounding an airport. These surfaces extend from about two to three miles from the airport, except for runways with precision instrument approaches, in which case the surfaces extend approximately 9.5 miles from the runway end. The various imaginary surfaces include the primary surface, transitional surface, horizontal surface, conical surface, and the approach surface.

Under Part 77, the FAA has established a process for reviewing and evaluating proposed structures in the vicinity of airports. FAA Advisory Circular 7460 establishes an airspace review process and provides information to individuals wishing to erect or alter structures that may affect navigable airspace around



an airport. In administering 14 CFR Part 77, the FAA's main objective is to ensure the safe and efficient use of navigable airspace around airports.

The FAA has established five different thresholds for evaluating whether a structure may affect navigable airspace around an airport. If any one of these thresholds is reached, the FAA requests that an individual wishing to erect or alter a structure seek its approval before commencing construction. One of the FAA thresholds applies if a structure is within "20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each 1 foot vertically) from the nearest point of the nearest runway."

After receiving a request for approval, the FAA will typically issue one of the following three determinations:

- **Determination of No Hazard to Air Navigation** – "The subject construction does not exceed obstruction standards and marking/lighting is not required."
- **Conditional Determination** – "The proposed construction/alteration would be acceptable contingent upon implementing mitigating measures (marking and lighting etc.)."
- **Objectionable** – "The proposed construction/alteration is determined to be a hazard and is thus objectionable. The reasons for this determination are outlines to the proponent."

By establishing threshold criteria and then requiring a detailed airspace hazard analysis, the FAA process provides a safety buffer. In certain circumstances, the FAA's detailed airspace hazard analysis results in FAA approval for developments near airports that may exceed the general height limitations set forth in 14 CFR Part 77.

### 7.2.3 State Model Zoning Ordinance

On January 1, 1946, the State of Minnesota enacted its first model airport zoning ordinance. By 1958 the State designated Safety Zones A, B and C as part of the model airport zoning standard. In 1973, local protective airport zoning was made a condition for receiving federal and state funds. Minnesota is one of the few states that has land use safety controls for airports that go beyond the requirements of FAA regulations.

It should be noted that FCM has adopted custom zones as allowed under recent state statute **amendments** and are further described below.

#### 7.2.3.1 Custom State Runway Safety Zones

The State Safety Zone A is a trapezoidal shape at the end of a runway, beginning at the edge of the primary surface and flaring outward to approximately 2/3 of the runway length. State Safety Zone B is a trapezoidal shape, with the same flare as Zone A, extending outward from the end of Zone A to approximately 1/3 of the runway length. The extent of State Safety Zone C is coincidental with the extent of the horizontal airspace surface.

Under Minnesota law, Zone A must not contain buildings, temporary structures, exposed transmission lines, or other similar above-ground land use structural hazards. Land uses in Zone A are restricted to those uses that will not create, attract, or bring together an assembly of persons. Permitted uses in Zone A include, but are not limited to, agriculture (seasonal crops), horticulture, animal husbandry, raising of livestock, wildlife habitat, light outdoor recreation (non-spectator), cemeteries, and automobile parking.



Zone B uses are restricted as follows:

- Each use must be on a site whose area is not less than 3 acres.
- Each use must not create, attract, or bring together a site population that would exceed 15 times that of the site acreage.
- Each site must have no more than one building plot upon which any number of structures may be erected.
- A building plot must be a single, uniform, and non-contrived area, whose shape is uncomplicated and whose area must not exceed minimum ratios with respect to the total site area.

The following uses are specifically prohibited in Zone B:

- Churches, hospitals, schools, theaters, stadiums, hotels, motels, trailer courts, campgrounds, and other places of frequent public or semi-public assembly.

In Zone C, no use may be made of any land that creates or causes interference with the operations of radio or electronic facilities on the airport or with radio or electronic communications between the airport and aircraft. In addition, Zone C prohibits land uses that make it difficult for pilots to distinguish between airport lights and other lights, result in glare in the eyes of pilots using the airport, impair visibility in the vicinity of the airport, or otherwise endanger the landing, taking off, or maneuvering of aircraft. All structure heights in Zone C are limited to 150 feet above the primary surface at the airport.

The State prefers that Airports own all of State Zone A. For land within the area that is not airport-owned, land use protection is recommended by including the safety zones in local zoning codes and zoning maps. Inclusion of the safety zones on community Comprehensive Plans is also strongly encouraged.

#### 7.2.3.2 State Model Zoning Ordinance Airspace Protection

The State Model Zoning Ordinance height restrictions are predicated directly on the FAA's Part 77 imaginary airspace surfaces.

## 7.3 Land Use Compatibility Analysis

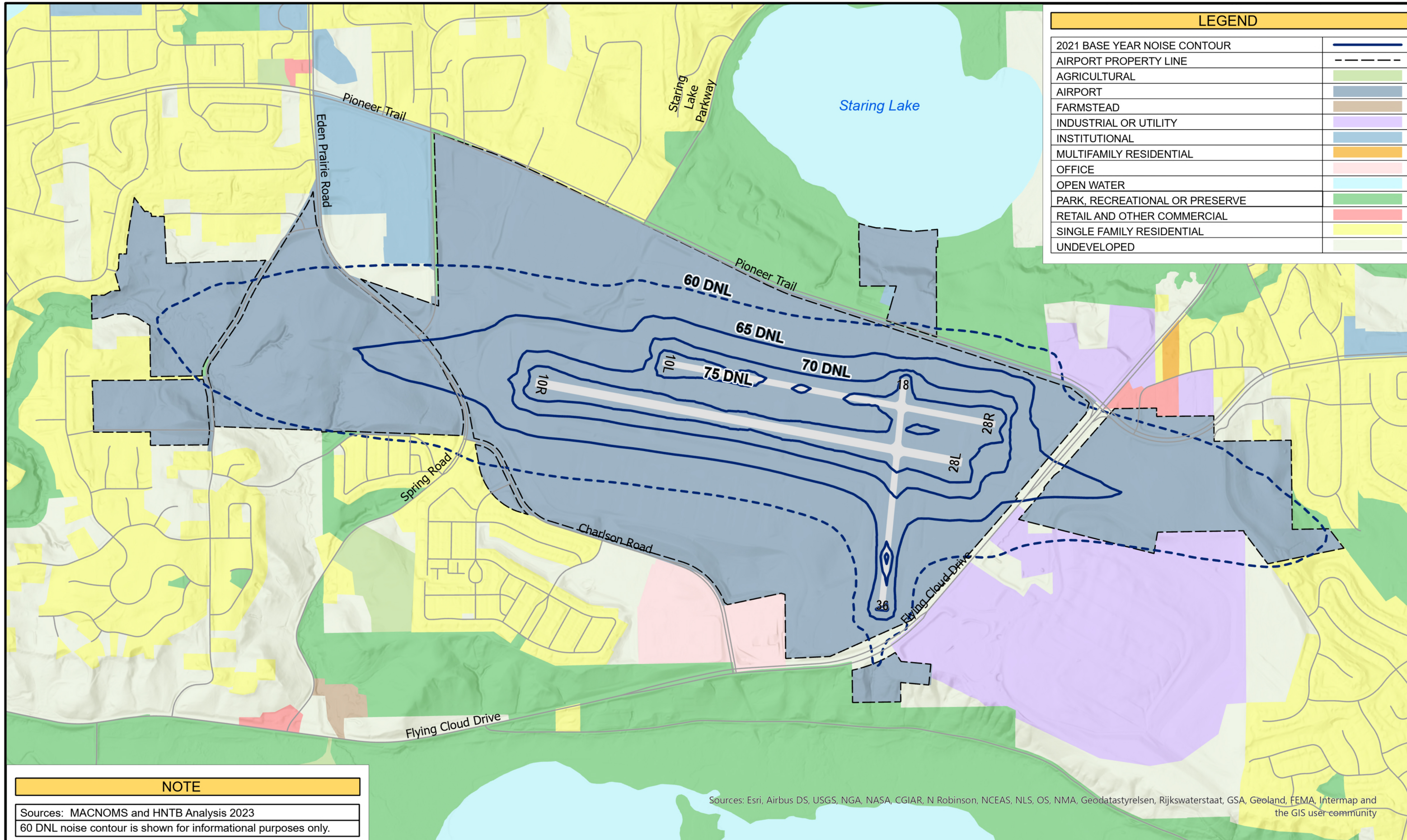
FCM is in Hennepin County within the City of Eden Prairie. The airport is bordered by residential land uses to the southwest, park/recreational and/or conservation area to the north and south, and industrial/utility and residential land uses to the west. The airport is bordered by Pioneer Trail to the north and TH 212 to the south. The City of Eden Prairie adopted a Comprehensive Plan Update which addresses planning and development in airport noise and airspace safety zones. Eden Prairie has adopted by reference the Metropolitan Council's *Land Use Compatibility Guidelines for Aircraft Noise* for new development and uses state safety zones for planning purposes. The City's zoning ordinance contains height limits ranging between 30 and 45 feet, depending on zoning district.

The following sections detail land use considerations in the context of existing land uses around FCM focusing on airport noise and runway safety zones.

### 7.3.1 2021 Base Year Land Use Compatibility

As detailed in *Chapter 6*, the 2021 Base Year noise contours contain 252 acres within the 65 DNL contour, which is entirely contained on airport property, and 611 acres within the 60 DNL contour. Error! Reference source not found. provides the 2021 Base Year 60 DNL and greater noise contours around FCM with existing land use data provided by the Metropolitan Council. **Table 7.3** provides existing acreage by land use type within the 2021 Base Year noise contours. The 60 DNL noise contour and land use counts are shown for informational purposes only.





LEGEND	
2021 BASE YEAR NOISE CONTOUR	
AIRPORT PROPERTY LINE	
AGRICULTURAL	
AIRPORT	
FARMSTEAD	
INDUSTRIAL OR UTILITY	
INSTITUTIONAL	
MULTIFAMILY RESIDENTIAL	
OFFICE	
OPEN WATER	
PARK, RECREATIONAL OR PRESERVE	
RETAIL AND OTHER COMMERCIAL	
SINGLE FAMILY RESIDENTIAL	
UNDEVELOPED	

**NOTE**

Sources: MACNOMS and HNTB Analysis 2023  
 60 DNL noise contour is shown for informational purposes only.

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



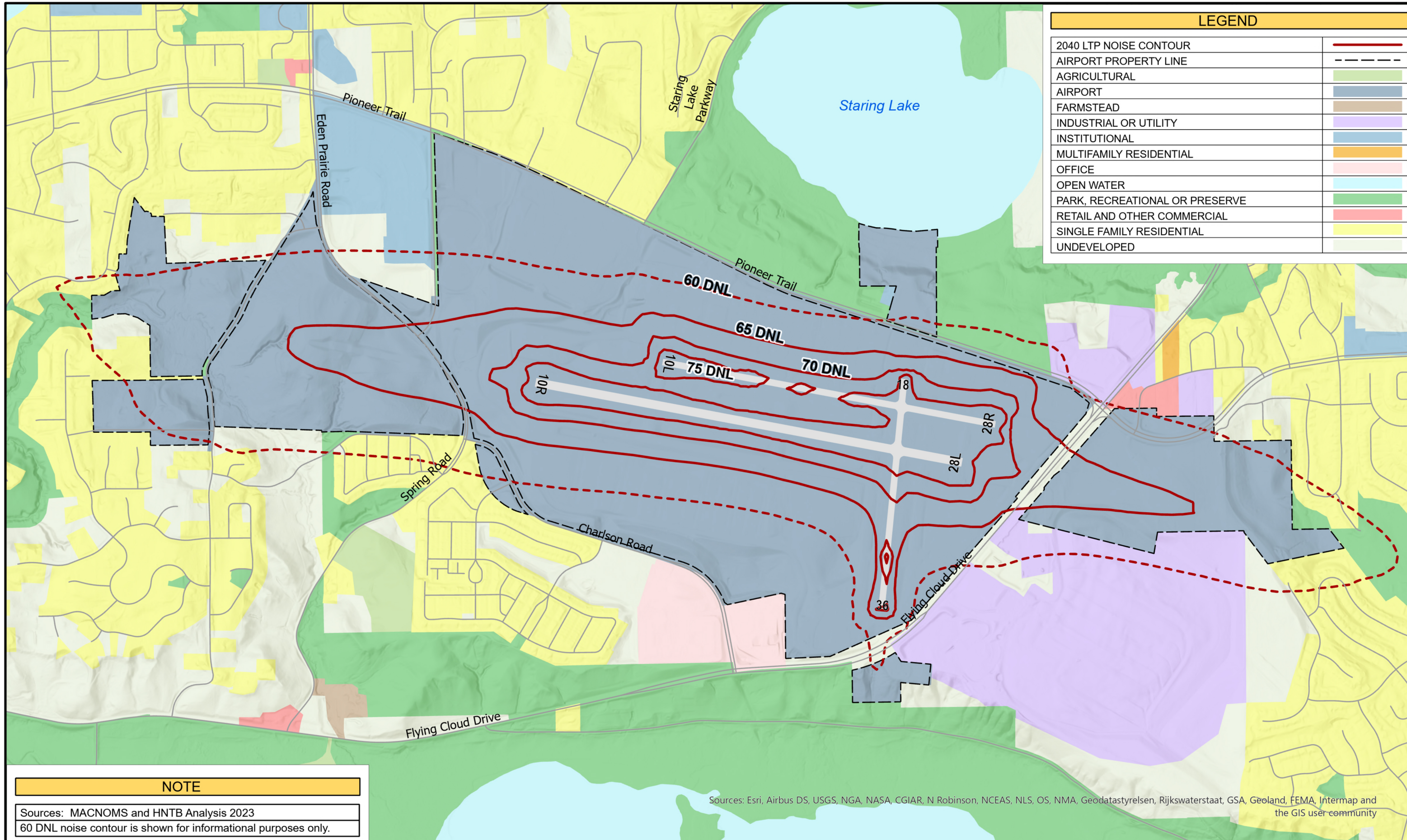
**Table 7.3: 2021 Base Year Noise Contours Land Use Acreages**

LAND USE TYPE (ACRES)	60-64 DNL	65-69 DNL	70-74 DNL	75+ DNL	TOTAL
Airport	299.1	124.8	71.5	55.5	<b>550.8</b>
Agricultural	1.6	0	0	0	<b>1.6</b>
Industrial or Utility	20.1	0	0	0	<b>20.1</b>
Park, Recreational, or Preserve	23.4	0	0	0	<b>23.4</b>
Single Family Attached	3.1	0	0	0	<b>3.1</b>
Single Family Detached	0.3	0	0	0	<b>0.3</b>
Undeveloped	11.3	0.7	0	0	<b>12.0</b>
<b>Total</b>	<b>358.9</b>	<b>125.4</b>	<b>71.5</b>	<b>55.5</b>	<b>611.2</b>

Note: The 65-69 DNL contour is entirely within Airport-owned property. Area designated as undeveloped land use is within Airport property.

Source: Metropolitan Council 2016 Generalized Land Use and HNTB Analysis, 2024.

The existing RPZs and State Runway Safety Zones A and B at FCM are depicted on **Figure 7.2** with the existing land use around the Airport. **Table 7.4** provides the existing acreage by land use type within the RPZs located off each runway end. **Table 7.5** provides the existing acreage by land use type within Zone A associated with the listed runway ends. **Table 7.6** provides existing acreage by land use type within Zone B associated with the listed runway ends. Note that the Airport RPZs and State Safety Zones A and B do not contain any residential structures.



LEGEND	
2040 LTP NOISE CONTOUR	
AIRPORT PROPERTY LINE	
AGRICULTURAL	
AIRPORT	
FARMSTEAD	
INDUSTRIAL OR UTILITY	
INSTITUTIONAL	
MULTIFAMILY RESIDENTIAL	
OFFICE	
OPEN WATER	
PARK, RECREATIONAL OR PRESERVE	
RETAIL AND OTHER COMMERCIAL	
SINGLE FAMILY RESIDENTIAL	
UNDEVELOPED	

**NOTE**

Sources: MACNOMS and HNTB Analysis 2023  
 60 DNL noise contour is shown for informational purposes only.

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



**Table 7.4: RPZ Land Use Acreages**

LAND USE TYPE (ACRES)	RUNWAY END					
	10R	28L	10L	28R	18	36
Airport	78.9	26.8	8.0	8.0	2.5	6.6
Park, Recreational, or Preserve	0	0	0	0	5.5	1.4
Industrial or Utility	0	1.4	0	0	0	0
<b>RPZ Total</b>	<b>78.9</b>	<b>29.5</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>

Source: HNTB analysis, 2024.

**Table 7.5: State Safety Zone A Land Use Acreages**

LAND USE TYPE (ACRES)	RUNWAY END			
	10R/10L	28L/28R	18	36
Airport	140.2	81.2	4.8	10.7
Open Water	0	0	8.1	0
Park, Recreational, or Preserve	3.0	0	17.8	20.2
Industrial or Utility	0	28.1	0	0.5
Agricultural	0	1.8	0	0
Single Family	0	0	0	0
Undeveloped	0.5	5.5	0	0
<b>Zone A Total</b>	<b>143.7</b>	<b>116.6</b>	<b>30.7</b>	<b>31.4</b>

Source: MnDOT Aeronautics Zoning, <https://www.dot.state.mn.us/aero/planning/zoning-warehouse.html>, and HNTB Analysis, 2024.

**Table 7.6: State Safety Zone B Land Use Acreages**

LAND USE TYPE (ACRES)	RUNWAY END			
	10R/10L	28L/28R	18	36
Airport	46.9	11.5	0	0
Open Water	0	0	24.1	17.6
Park, Recreational, or Preserve	8.6	16.4	0	6.6
Undeveloped	3.7	5.9	0	0
Single Family Detached	0.2	0.3	0	0
<b>Zone B Total</b>	<b>59.4</b>	<b>34.2</b>	<b>24.1</b>	<b>24.1</b>

Source: MnDOT Aeronautics Zoning, <https://www.dot.state.mn.us/aero/planning/zoning-warehouse.html>, and HNTB Analysis, 2024.



7.3.2 2040 LTP Land Use Compatibility

As detailed in *Chapter 6*, the 2040 LTP noise contours contain 306 acres within the 65 DNL contour, which is entirely contained on airport property, and 760 acres within the 60 DNL contour.

**Figure 7.3** provides the 2040 LTP 60 DNL and greater noise contours around FCM with existing land use data provided by the Metropolitan Council.<sup>25</sup> **Table 7.7** provides existing acreage by land use type within the 2040 LTP noise contours. The 60 DNL noise contour and land use counts are shown for informational purposes only.

The proposed RPZs and State Safety Zones A and B are assumed to remain the same in the 2040 condition as summarized in the 2021 Base Year.

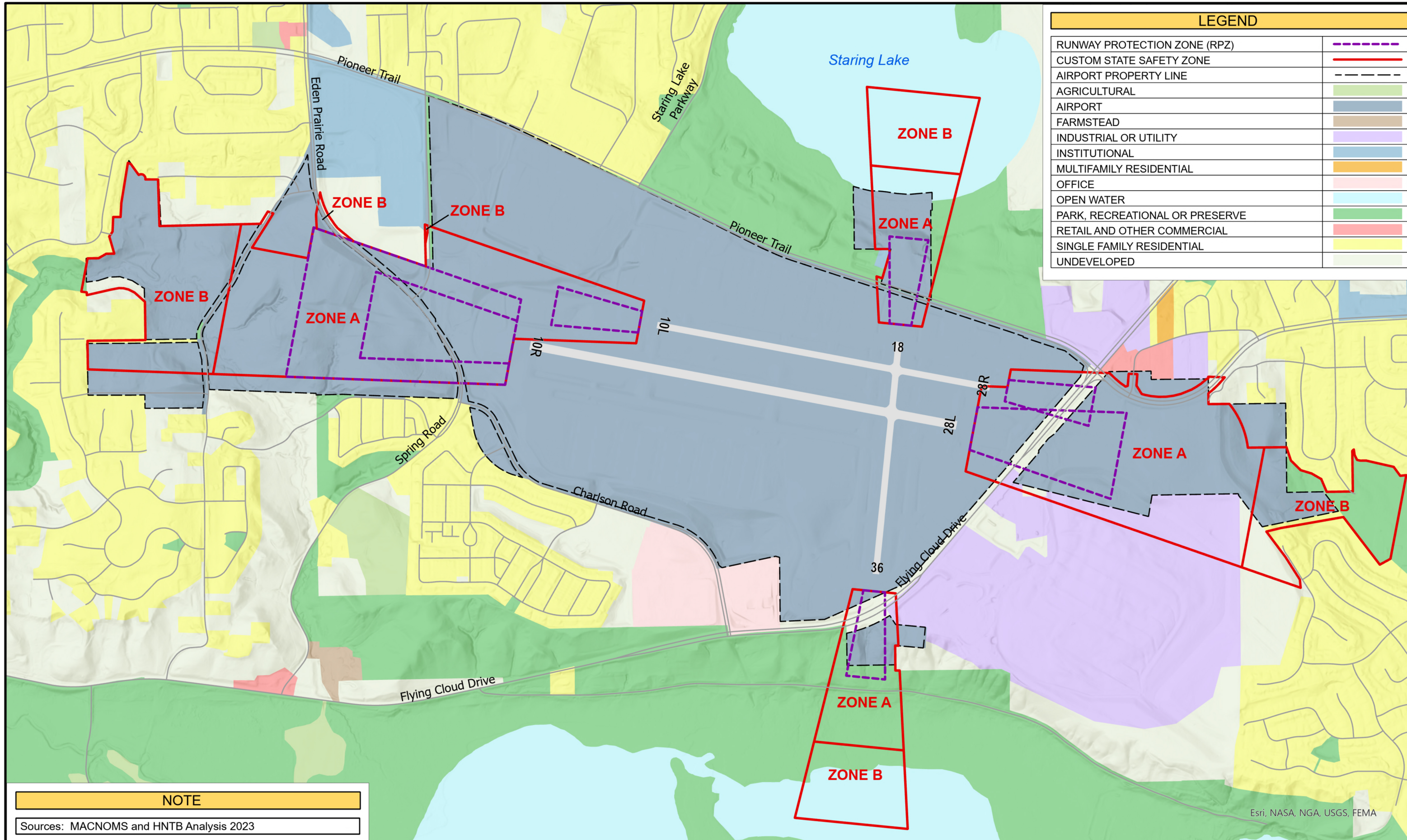
**Table 7.7: 2040 LTP Noise Contours Land Use Acreages**

LAND USE TYPE	60-64 DNL	65-69 DNL	70-74 DNL	75+ DNL	TOTAL
Airport	308.4	164.0	74.4	66.2	<b>613.1</b>
Agricultural	3.4	0	0	0	<b>3.4</b>
Industrial or Utility	32.1	0	0	0	<b>32.1</b>
Institutional	1.8	0	0	0	<b>1.8</b>
Park, Recreational, or Preserve	46.1	0	0	0	<b>46.1</b>
Retail/Commercial	0.2	0	0	0	<b>0.2</b>
Single Family Attached	9.1	0	0	0	<b>9.1</b>
Single Family Detached	21.6	0	0	0	<b>21.6</b>
Undeveloped	31.4	1.2	0	0	<b>32.6</b>
<b>Total</b>	<b>454.0</b>	<b>165.3</b>	<b>74.4</b>	<b>66.2</b>	<b>759.9</b>

Note: The 65-69 DNL contour is entirely within Airport-owned property. Area designated as undeveloped land use is within Airport property.

Source: Metropolitan Council 2016 Generalized Land Use and HNTB Analysis, 2024.

<sup>25</sup> Metropolitan Council “Planned Land Use” data was reviewed. Minor differences were found in the existing and planned land use directly surrounding FCM, with the most notably difference being assignment of “undeveloped” land use to a new land use type. As the minor differences did not impact the area under the 2040 noise contours, the existing land use data was utilized for analysis of both 2021 and 2040 conditions to provide a more direct comparison.



LEGEND	
RUNWAY PROTECTION ZONE (RPZ)	
CUSTOM STATE SAFETY ZONE	
AIRPORT PROPERTY LINE	
AGRICULTURAL	
AIRPORT	
FARMSTEAD	
INDUSTRIAL OR UTILITY	
INSTITUTIONAL	
MULTIFAMILY RESIDENTIAL	
OFFICE	
OPEN WATER	
PARK, RECREATIONAL OR PRESERVE	
RETAIL AND OTHER COMMERCIAL	
SINGLE FAMILY RESIDENTIAL	
UNDEVELOPED	

**NOTE**  
Sources: MACNOMS and HNTB Analysis 2023

Esri, NASA, NGA, USGS, FEMA