

6. PROPOSED DEVELOPMENT PLAN

6.1 Overview of Proposed Development

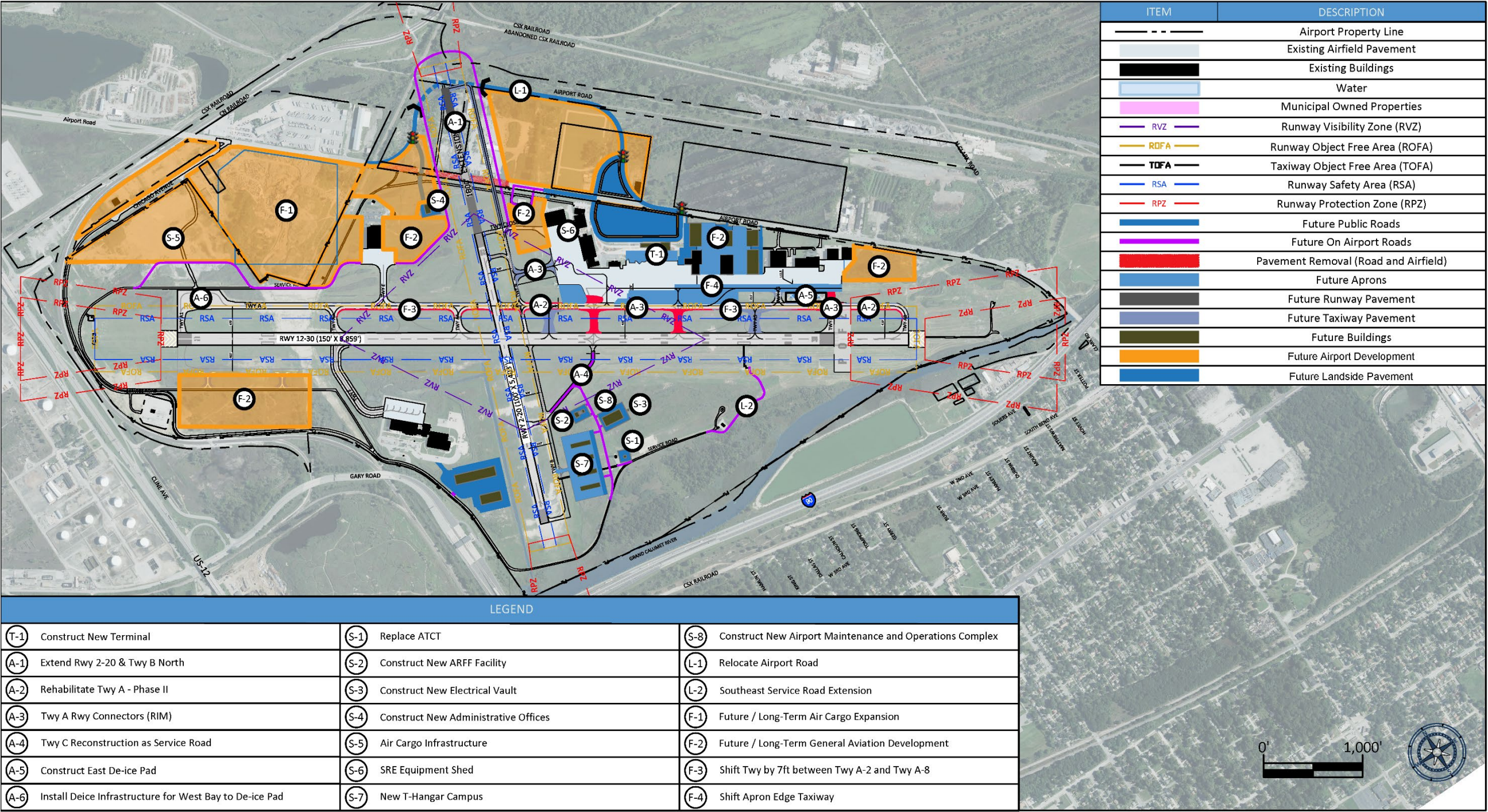
This chapter describes the Proposed Development Plan which comprises the preferred alternative for each of the functional areas discussed in the Alternatives chapter. The Proposed Development Plan includes specific projects with budgets and years in which the projects (or programs) are anticipated to begin. Near term projects are defined as beginning between 2020 and 2024, and long-term projects being implemented from 2025 to 2035. Future projects are those envisioned beyond the planning period.

This plan defines a framework by which GCIAA can respond to forecasted demand over the 20-year planning period.

The Proposed Development Plan is depicted in **Figure 6-1**. Development needed within the Baseline Forecast is shown with defined features (pavements, buildings, etc.) while development needs beyond that time are indicated by shaded (yellow and orange) areas. Projects and future uses are identified by a letter-number designator. Each will be described in the next section.

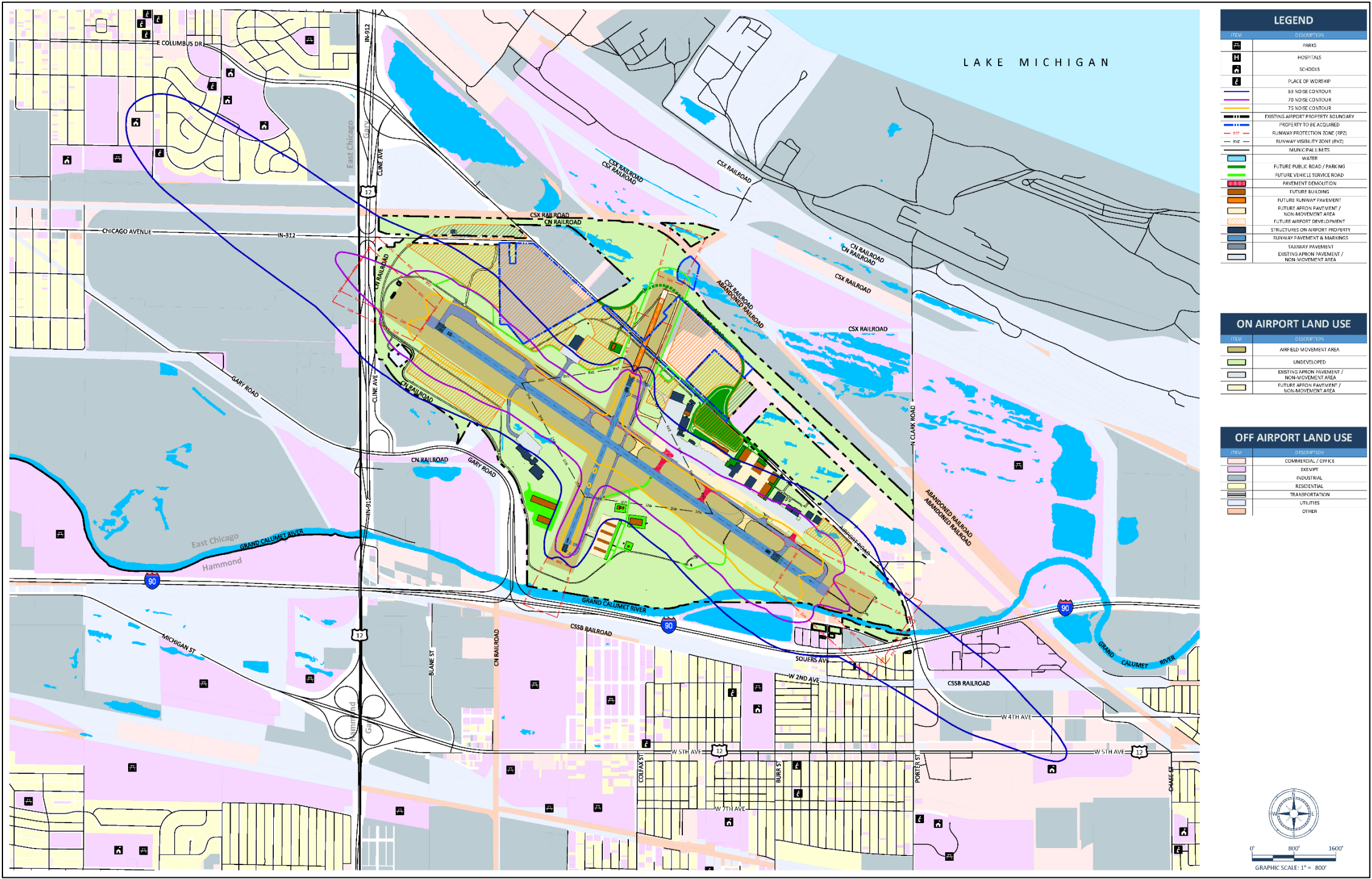
Future land use is shown in **Figure 6-2**. Lake County, Indiana GIS data was used to define land uses outside the Airport. The noise contour lines were imported from the previous master plan, *Master Plan Update Gary/Chicago Airport*, dated November 2001. Development of updated noise contours was not within the scope of this Master Plan.

Figure 6-1 – Proposed Development Plan



Source: Jacobsen|Daniels, Prepared by Jacobsen|Daniels May 2020

Figure 6-2 – Land Use



Source: Lake County, Indiana GIS Portal, <https://portico/mygisonline.com/portals/lakein/>; Noise contours from Master Plan Update Gary/Chicago Airport, December 2001; Prepared by Jacobsen|Daniels, February 2021

The noise contours represent the fleet and activity in the 2001 Master Plan's 2020 Low forecast. Activity included 2,558 annual passenger operations of medium and small narrowbody aircraft and 398 annual air cargo operations by Boeing 727 aircraft. This is significantly greater than the Baseline forecast of activity for this Master Plan and more comparable to activity levels in the High Scenario for 2035.

6.2 Development Projects

The Proposed Development Plan is defined as a series of projects for airfield, landside, terminal, and airport support. Each project is defined by a scope of work and intent, recommended timing for beginning the work, and rough, order-of-magnitude costs. This section describes the project scopes and timing. **Section 6.3** presents costs.

Project initiation timeframes are defined as near-term, mid-term and long-term in accordance with FAA planning guidance. In terms of timing from completion of the Master Plan and calendar years, these timeframes are defined as follows.

- Near-term: 1 to 5 years or 2022 to 2027
- Mid-term: 6 to 10 years or 2028 to 2032
- Long-term: 11+ years or beyond 2033

Initiation timeframes are based on discussion with GCIAA and anticipated demand. However, timing could change with changes in demand and availability of funding. Multi-year projects such as the Runway 2-20 extension may be started in one period but not be completed for several years, possibly extending into the next timeframe.

6.2.1 Airfield Improvements

Table 6-1 describes the airfield improvements that make up the Proposed Development Plan. These include two future/long-term projects: shift Taxiway A away from Runway 12-30 by seven feet to meet ADG III/IV runway-to-taxiway centerline separation standards, and expand the apron edge south of Taxiway A5, allowing a full ADG III apron edge taxilane.

Table 6-1 – Proposed Development Plan – Airfield Projects

ID	Project Title	Initiation Timeframe	Description
A-1	Extend Runway 2-20 & Taxiway B North	Near-term, beginning with Environmental Assessment	Extend approach end of RWY 20 by 1,800 LF. Includes update to runway length justification study, land acquisition of approximately 43 acres, Environmental Assessment, wetlands mitigation, site prep, fill, runway and taxiway construction and markings; runway end elevation/gradient requirements (1.3% slope from existing end elevation), and construction over Airport Road tunnel (Project L-1). Grade runway safety area 300 feet beyond runway end to -3.00 % max for the first 200 feet, and grade sideline slopes to no steeper than 8H:1V outside runway and taxiway object free areas and no steeper than 4H:1V beyond that to natural ground. Extend the airport service road around runway extension (above Airport Road) 5,640 LF x 25 feet wide. Service road can remain mostly at grade, with the exception of the tunnel sections. Includes runway and taxiway edge lights, pavement markings and signage.
A-2	Rehabilitate Taxiway A - Phase II	Near-term	Taxiway reconstruction (existing location). Shoulder restoration, milling, 12-inch PCC Pavement, pavement markings. Approximately 3,500 feet of the 75 feet wide taxiway and several connectors.
A-3	Taxiway A to Runway Connectors (RIM - Direct Access)	Mid-term	Demo existing taxiway connectors (C and A5) between TW A and RW 12-30. Demo one taxilane connector (A7) between the west apron and TW A. Add two new ADG IV taxiway connectors between TW A and RW 12-30 and a ADG II taxiway connector between TW B and the apron. Add approximately 276,330 SF of new apron infill pavement between the apron and TW A from the north ramp to just north of the new south taxiway connector.
A-4	Taxiway C Decommissioning to Service Road	Mid-term	Demo outer 7 feet on each side of the 38-foot wide taxiway for the first 50 feet of pavement on each end (RWY 12-30 and TWY B). Remove markings and lights, modify signs. Remaining taxiway pavement to be used as service road serving new ARFF.

ID	Project Title	Initiation Timeframe	Description
A-5	Construct East De-ice Pad	Near-term	Construct approximately 28,900 SF of apron pavement, catchment system for de-ice fluids capture and transport to sanitary sewer (trench drain, manholes, bypass valve, 8" sanitary gravity piping, tie to existing manhole on sanitary line) and separate connection to storm drain. Existing sanitary sewer for connection is approximately 1,000 feet away and deep enough to assume gravity flow from the deice pad. Existing storm drainage is within 150 feet.
A-6	Install Deice infrastructure for West Bay to De-ice Pad	Near-term	Existing concrete/deice pad on the north end of TWY A was built with inlets and de-ice piping bypass. Construct bypass valve outlets to new sanitary sewer line into new manhole, 50 gpm lift station and lines to tie to existing sanitary sewer, approximately 1,500 feet away.
F-3	Shift Taxiway A by 7 feet between Taxiways A2 and A8	Long-term	Removal of pavement on south side of TWY A (43,000 SF). Add pavement on north side of existing taxiway to relocate centerline (approximately 36,000 SF).
F-4	Shift Apron Edge Taxilane	Long-term	Additional pavement added to apron edge to create apron edge taxilane along entire length of apron from GJC to Ni Source (approximately 169,000 SF).

Source: Jacobsen | Daniels, Prepared by Jacobsen | Daniels, July 2020

6.2.2 Passenger Terminal and Parking

The Master Plan recommends a single project for the passenger terminal area which includes the new passenger terminal building, terminal road realignment, and repaving and expanding the public parking lot. The details of this project are described in **Table 6-2**.

If commercial passenger service returns to the Airport, modifications to the existing terminal will be needed to accommodate passenger and baggage screening. While the Master Plan recognizes that improvements will be needed, an understanding of the nature of the future activity and required airport level of service is essential to identifying specific improvement. Improvements, funding, and responsibilities should be negotiated with the carrier during start-of-service negotiations. Given that service initiation generally has a short lead time, improvements will likely be limited to space remodeling and equipment replacement.

Table 6-2 – Proposed Development Plan - Passenger Terminal Projects

ID	Project Title	Recommended Timing	Description
T-1	Construct New Terminal	Long-term (demand driven)	<p>Construct a 56,700 SF two-level terminal (29,000 SF first level) with two new jet bridges, new terminal curbside roadway, and loop roadway back to Airport Road (approximately 3200 LF of two lane/25-ft wide road).</p> <p>Full depth repaving of 464,200 SF parking lot adjacent to terminal; two entry/exit locations with access and revenue control; new 77,900 SF concrete aircraft apron; demo existing 16,620 SF terminal.</p> <p>The existing terminal utilities are anticipated to be adequate to serve the new facility, but a new transformer and switch gear are required to allow the connection to existing utilities.</p>

Source: Jacobsen|Daniels, Prepared by Jacobsen|Daniels, July 2020

6.2.3 General Aviation

Planned expansion by B. Coleman and Gary Jet Center, the Airport's two FBOs, satisfies the Baseline forecast demand for GA facilities during the planning period. However, if GA growth exceeds the Baseline forecast, additional areas have been identified for potential hangar development. These locations are indicated by shaded areas defined as Project F-2 in Figure 6-1. Each of these areas has different requirements for development that should be defined as planning and design projects move forward.

6.2.4 Roadway and Access

Although the Master Plan identified roadway and access improvements for off-Airport roads, the projects identified in **Table 6-3** are only those within the control of GCIAA. Project L-1 for Relocation of Airport Road is required for the Runway 2-20 extension, project A-1. These two projects would be planned and designed concurrently, and both would be evaluated together in the environmental assessment (EA). In addition to the public landside road, the Master Plan also evaluated the airport service road located inside the airport fence line, to ensure adequate airfield access without traversing an active runway or taxiway.

Table 6-3 - Proposed Development Plan – Roadway and Access Projects

ID	Project Title	Recommended Timing	Description
L-1	Relocate Airport Road	Near-term, in conjunction with Project A-1	Enabling project to A-1, requires clearing, grading, drainage, ROW prep, tunnel/underpass construction of approximately 950 LF, signalization, approximately 7,150 LF of 5-lane arterial roadway, 600 LF of 4-lane roadway, fill over underpass section to allow future runway extension construction over the top; removal of approximately 4,000 LF of existing Airport Road. Because of the high water table, the roadway extension will remain at grade rather than dropping below grade.
L-2	Southeast Service Road Extension	Mid-term	Provide an extension to the existing perimeter road of approximately 1,323 LF of 25-ft wide asphalt service road, signage, and pavement markings.

Source: Jacobsen|Daniels, Prepared by Jacobsen|Daniels, July 2020

6.2.5 Other Facilities

Table 6-4 describes the projects associated with other facilities on the Airport. This includes a future air cargo expansion on land not currently owned by GCIAA but adjacent to the existing airfield. The plan anticipates that GCIAA would acquire the land and construct common utility and access infrastructure, but the site development would be implemented by a third-party developer. While the infrastructure development is beyond the Master Plan's planning horizon, this land acquisition has been shown on the Airport's previous master and strategic plans.

Table 6-4 - Proposed Development Plan – Other Facilities

ID	Project Title	Recommended Timing	Description
S-1	Replace ATCT	Near-term	New ATCT with 75 feet eye height AGL assumed, three controller positions. Approximately 3,000 SF asphalt parking lot. Will require line of sight analysis to verify eye height. Demo existing tower. Tie utilities for new facility into existing service, assume 200 feet maximum utility runs (water, sewer, gas, power, communications)

ID	Project Title	Recommended Timing	Description
S-2	Construct New ARFF Facility	Near-term	Three-bay ARFF station of 6,100 SF. 27,600 SF concrete pavement for ARFF access to airfield and driveway; 2,000 SF asphalt pavement for vehicle parking. Service road extension to new ARFF (1,840 LF x 25 feet wide asphalt), extend SIDA fencing along new road, both sides, approx. 3,000 SF. Extend utilities to site - water, sanitary sewer, gas, comm, power, approximately 1,000 feet each. Assume small sanitary sewer lift station to serve ARFF, Maintenance and ATCT to outfall into existing system.
S-3	Construct New Electrical Vault	Near-term	New electrical vault and duct bank to existing airfield circuits. Masonry structure, with air conditioning. The new system includes a stacked regulator switchboard system which will be controlled by a modern control system utilizing touch screen panels and remote meggering system. Demo existing electrical vault. Pricing includes allowances for cross-field duct bank and circuitry.
S-4	Construct New Administrative Offices	Long-term (when current admin area is needed for FBO expansion.)	Single story building, 9,000 SF with offices, conference room, Board Meeting Room, breakroom, restrooms, file storage, janitorial storage. Asphalt parking lot of approximately 15,000 SF. Utility extensions from Airport Road approx. 700 feet) for water, sanitary, gas, power, and comm. Landscaping and monument sign.
S-5	Air Cargo Infrastructure	Near-term (based on UPS expansion at GYY)	GCIAA to provide infrastructure to support third-party development of the cargo facility: 41 acres of site clearing and grading, 468 LF x 75 feet wide connector taxiway. Extend utilities to site: water approximately 500 feet and sanitary sewer approx. 1,500 feet. Widen Chicago Avenue 12' each side for 750 feet beyond existing cul-de-sac for truck traffic.
S-6	SRE Building Expansion	Near-term	Metal building 9,000 SF footprint (120 x 75) with 3 bays and 20 ft high doors and mezzanine space equal to 10% of footprint. Assume low level (warehouse) finish on main portion of building and higher-level finish for offices in mezzanine space.
S-7	New T-Hangar Campus	Near- to Mid-Term, as FBO development displaces existing T-hangars and demand for T-hangars remains	Single story T-hangar buildings for 40 aircraft, based on Erect-a-Tube N54/42 nested in blocks of 10 with approximately 200,000 SF of asphalt apron paving, 168 LF of concrete taxilane (40 feet wide) to connect to TWY Bravo, and 30,000 SF of vehicle parking. All will be built airside of AOA fence, with two access control gates for vehicle entry to parking lot. Extend 6" water line to tie to existing line near ATCT, approximately 500 LF. Power from lines near ATCT, all underground. Assumes HVAC with gas or electric unit heaters, exhaust fans and wall louvers. Sprinkler system allowance is included if required by code.

ID	Project Title	Recommended Timing	Description
S-8	New Airport Maintenance and Operations Complex	Long-term	4,500 SF Offices, and 18,200 SF of equipment bays in a new location on the south side of the airfield. Metal building construction with higher finish level in offices. Extend water, sanitary from ATCT area, approximately 600'.
F-1	Air Cargo Expansion	Long-term	Property acquisition of approx. 51 acres, mitigation, site clearing and grading for third-party development

Source: Jacobsen|Daniels, Prepared by Jacobsen|Daniels, July 2020

6.3 Program Costs

The Planning Team prepared estimates of probable cost for all of the projects in the Proposed Development Plan except for F-1, Future Air Cargo Expansion and F-2, GA Expansion that would be developed by third parties. The estimates are prepared as a rough order-of-magnitude cost, appropriate to the level of detail developed in the Master Plan. Pricing is based on second quarter 2020 dollars (pre-COVID-19) with no adjustment for escalation. The detailed estimates are included as **Appendix X**.

Estimates were based on market conditions that existed prior to the COVID-19 outbreak and does not reflect its potential economic impact to the construction market. The impacts on material and labor availability have not been fully realized and the bidding and construction environment is in active flux. Prior to the outbreak, the biggest challenge in the industry was labor. With the low unemployment rate, estimators saw periodic shortages of skilled labor in the national and local construction markets. Contractors struggled to fill hourly and craft positions.

6.3.1 Markups and Soft Costs

In addition to hard costs, markups and soft costs were included to reflect total project cost for each project. These include General Contractor Markups and Owner's Soft Costs. **Figure 6-3** shows the markups and soft costs used in the estimates. In addition to these, a 25% estimating design evolution is included in the estimate for unforeseen work and final detailing that may be necessary to accomplish the project scope of work, as opposed to additions to the scope. Allowances are included for project logistics and labor factors (remote staging, security, etc.), performance and payment bonds, and project phasing/temporary work.

Figure 6-3 – Markups and Soft Costs Included in Estimates

- ➔ The following “direct” markups on the cost of work are included in the estimate, based on traditional design, bid, build:

General Contractor Markups

Estimating Design Evolution	25.0%
Project Logistics & Labor Factor	3.5%
General Requirements, Phasing & Temporary Construction	5.0%
General Conditions	8.0%
General Contractor’s Overhead & Profit	5.0%
Insurance	2.5%
Payment & Performance Bonds	1.0%
Sustainability Requirements	0.0%

- ➔ The following “indirect” markups (also known as ‘Owner’s Soft Costs’) are included in the estimate.

Owner’s Soft Costs

Program Management	0.0%
Construction Manager	0.0%
Planning & Preconstruction	0.2%
Architectural / Engineering Design	10.0%
Architectural / Engineering Construction Admin	2.0%
Airport Staff	4.0%
Materials Testing/Inspection/Commissioning	2.5%
Plan Check Services	0.1%
Cost Estimating & Scheduling	0.5%
Miscellaneous Owner Costs (i.e. Legal)	1.0%
Artwork	1.0%
Owner’s Construction Contingency	0.0%
Project Contingency	0.0%

Source: Connico Incorporated, Prepared by Connico Incorporated, May 2020

6.3.2 Project Cost Summary

Table 6-5 presents a summary of estimated project costs. GCIAA will use the project costs and initiation timing to prepare a plan of finance for the capital program, identifying sources and uses of funds.

Table 6-5 – Program Cost Summary

ID	Description	Total
A-1	Extend RWY 2-20 & TWY B North ^{1/}	\$ 42,064,710

A-2	Rehabilitate TWY A - Phase II	\$ 11,336,512
A-3	TWY A RW Connectors (RIM - Direct Access)	\$16,667,189
A-4	TWY C Decommissioning to Service Road	\$ 68,580
A-5	Construct East De-ice Pad	\$ 2,299,128
A-6	Install Deice Infrastructure for West Bay to De-ice Pad	\$ 1,529,163
L-1	Relocate Airport Road	\$ 76,091,404
L-2	Southeast Service Road Extension	\$ 1,371,608
S-1	New Air Traffic Control Tower (ATCT)	\$ 11,519,729
S-2	Construct New ARFF Facility	\$ 9,591,044
S-3	Construct New Electrical Vault	\$ 5,538,409
S-4	Construct New Administrative Offices	\$ 7,261,278
S-5	Air Cargo Infrastructure	\$ 9,675,842
S-6	SRE Building Expansion	\$ 6,308,391
S-7	New T-Hangar Campus	\$ 23,068,331
S-8	Construct New Airport Maintenance and Operations Complex	\$ 16,548,810
T-1	Construct New Terminal	\$ 72,597,707
F-3	Shift TWY A by 7 Ft. Between TWY A-2 and TWY A-8	\$ 2,278,733
F-4	Shift Apron Edge Taxiway	\$ 6,780,634
	<i>Opinion of Probable Program Cost</i>	\$ 322,597,202

1/ Includes \$500,000 allowance for Environmental Assessment.

Source: Connico Incorporated, Prepared by Jacobsen | Daniels, November 2020

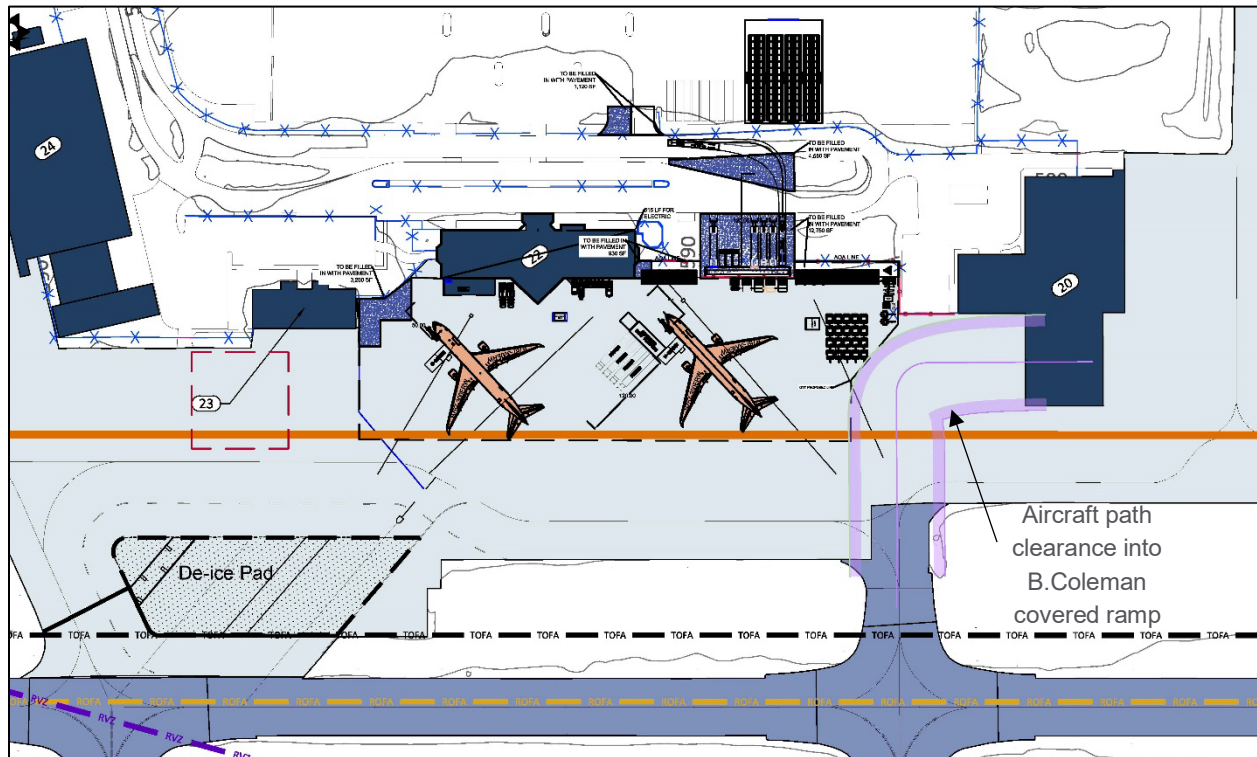
6.4 Interim Use of the Terminal for Air Cargo

During completion of the Master Plan, GCIAA was in negotiations with UPS to conduct cargo operations out of the Gary/Chicago International Airport. An agreement was reached in May 2020 in which UPS would lease the terminal and terminal apron for daily air cargo flights, sort and office functions. GCIAA envisions that as UPS grows its operation, cargo functions will move to the cargo area identified on the north end of the Airport. This will require construction of new apron and access taxiway, building, landside parking, truck docks, truck staging and maneuvering. The interim use of the terminal is shown as an existing condition on the Existing Airport Layout Drawing. The Future Airport Layout Drawing shows future terminal development in the terminal area, with cargo being moved to a new north cargo area.

UPS' interim use is shown in **Figure 6-4**. UPS will make improvements to the terminal, apron, and landside to accommodate their aircraft, sort and truck movements. The two passenger boarding bridges will also

be removed. Lease terms require UPS to restore the terminal to its initial state upon UPS leaving the Airport or the terminal area.

Figure 6-4 – UPS Layout in Terminal Area



Source: UPS and Jacobsen | Daniels, Prepared by Jacobsen | Daniels May 2020