Chapter 6
Facilities Implementation Plan

Analyses documented in previous chapters of this airport master plan culminated into the Recommended Development Concept presented in Chapter Five. The Recommended Development Concept reflects a summation of improvements to be made at North Las Vegas Airport (VGT) over the course of the planning period. The focus of the phasing plan is on improving the runway and taxiway system to accommodate growing demand from larger business jets across the Las Vegas regional airports system. The FAA-approved forecasts have shown that demand is already present at VGT to justify meeting higher design standards on the runway system. The phasing schedule has been developed based on this existing demand to enhance the operational safety and efficiency of the airport in a timely manner.

It is also important to consider that the schedule of improvements proposed in this phasing plan is contingent upon the availability of federal, state, and Clark County Department of Aviation (CCDOA) funds. While improvements are scheduled for specific phases, it should be noted that the programming of the Airport Improvement Program (AIP) by the FAA will determine the timing of many projects, as will CCDOA's priorities and funding capacity across its system of airports. Development projects at the airport must be reconciled with the development priorities of other airports within the FAA region.

In summary, implementation of projects will depend on obtaining environmental clearance, the availability of funds, FAA programming, and CCDOA system priorities.

Included in this chapter is an opinion of probable costs (OPCs) for each development phase. These OPCs should be re-evaluated and updated as projects transition from high-level planning to engineering and construction.

6.1 PROJECT DESCRIPTIONS

Individual projects are defined within this airport master plan by phase to achieve the Recommended Development Concept. Projects are grouped into four phases based on a logical progression that will ensure at least one of the parallel runways will be operational at all times and to ensure taxiway routes are maintained to provide access to all runway ends. Brief descriptions of each phase are presented below. Additional project definitions and subphases may need to be added as the project transitions from planning to engineering and construction.

6.1.1 PHASE 1 – RUNWAY 12L-30R AND PARALLEL TAXIWAYS C AND D

The focus of the first phase is on relocating Runway 12L-30R and its associated parallel taxiways 160 feet to the east. These projects can be undertaken without impact to Carey Avenue, and they will set the stage for the relocation and extension of Runway 12R-30L. This phase includes the relocation of visual approach aids and the instrument landing system (ILS) equipment associated with Runway 12L. The segmented circle/lighted wind cone, which currently obstructs the runway object free area (ROFA) and runway obstacle free zone (ROFZ), will also be relocated to a mid-field site between Taxiways A, D, and E.

Key notes for this phase include:

1. The new Taxiway D and Taxiway J must be completed prior to the closure of Taxiway A to maintain a taxi route to Runway 25.

2. Taxiway nomenclature will need to be updated as projects progress. In this phase, Existing Taxiways C and D will need to be renamed due to the construction of new parallel Taxiways C and D.

Phase 1 is depicted on **Figure 6.1**. The OPC for Phase 1 is $31.0 million dollars.

NOTES

1. New Taxiway D and Taxiway J must be completed prior to closure of Taxiway A to maintain Taxi Route to Runway 25.
2. Temporarily rename existing Taxiways C and D due to construction of new parallel Taxiways C and D during this phase.

LEGEND

- A — Ultimate Taxiway Designator
- Airport Property Line
- Ultimate Runway Pavement
- Ultimate Taxiway Pavement
- Ultimate Pavement Removal

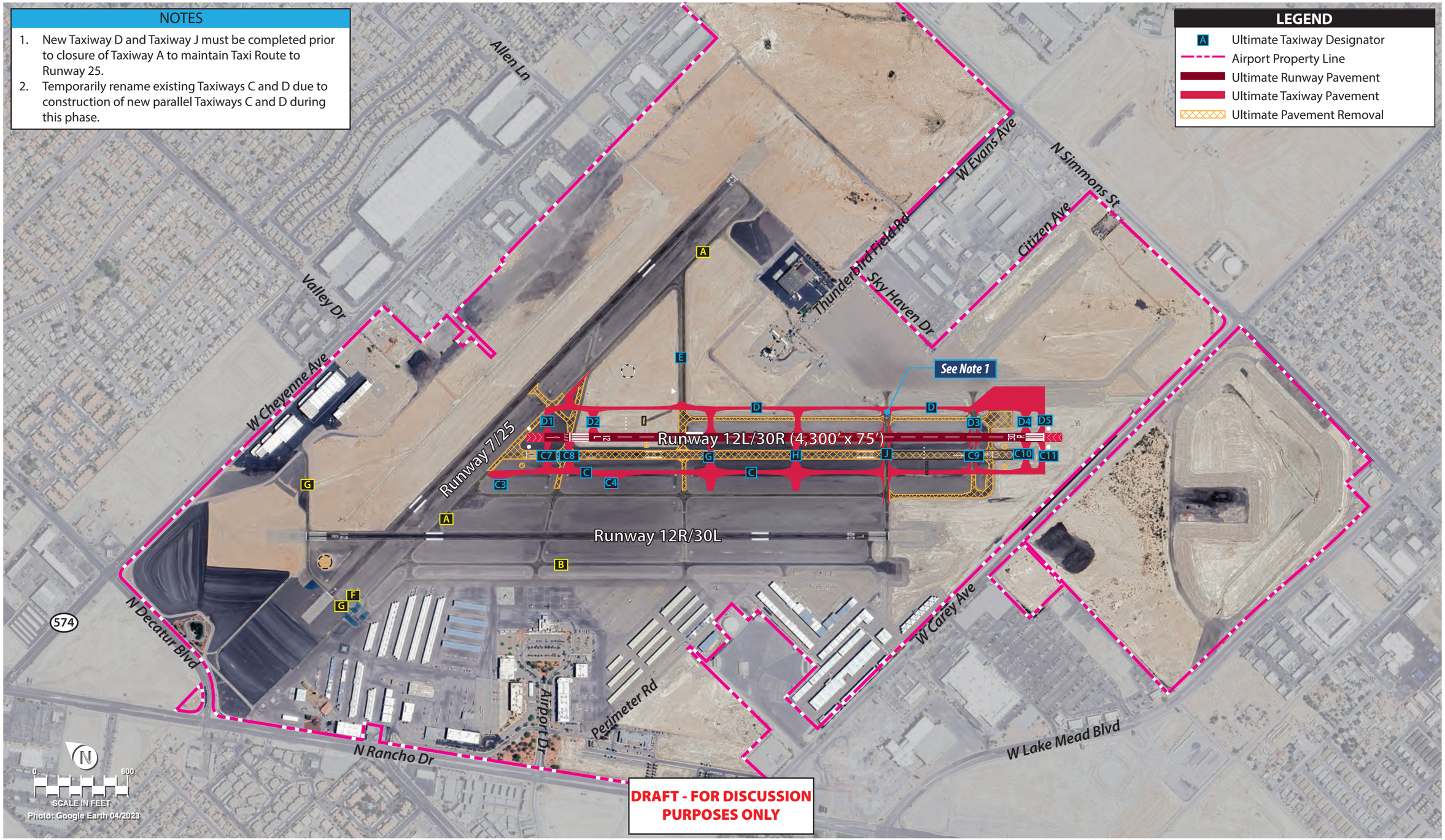

Figure 6.1
PHASE 1 - RUNWAY 12L-30R AND PARALLEL TAXIWAYS C AND D

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6.1.2 PHASE 2 – REALIGN CAREY AVENUE

The second phase is focused entirely on realigning Carey Avenue, which will allow for the relocation of Runway 12R-30L in the next phase. Approximately 9.2 acres of existing City of North Las Vegas (CNLV) right-of-way is proposed to be vacated and purchased by the CCDOA to allow for the future runway construction and safety area protection. A new extension of Carey Avenue to Lake Mead Boulevard is also proposed to maintain circulation in the area.

The closure/demolition of Carey Avenue will also require rerouting of existing utilities. HNTB has prepared a utilities study to document the existing utilities and feasibility of rerouting this infrastructure, if necessary. The results of that study are included as **Appendix D** in this master plan. The utility study includes costs associated with relocating infrastructure for potable water, sanitary sewer, and stormwater. In total, the utility infrastructure evaluation estimates a total cost of $20.2 million.

Phase 2 is depicted on **Figure 6.2**. The OPC for this phase, which excludes the Carey Avenue right-of-way property acquisition, is $27.2 million. The price of land in the City of North Las Vegas varies widely and will be dependent on the result of a fair market value appraisal; however, for planning purposes, the base cost estimate of $27.2 million is increased by $350,000 for a total estimated cost of $27.5 million.

GCW, Inc. has prepared a traffic study for the proposed Carey Avenue re-route which includes the proposed new roadway alignment (see **Appendix C**). GCW's proposed new roadway alignment is reflected on the figures within Chapters Five and Six.

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NOTES

1. Existing Carey Ave remains outside of the new Runway 12L-30R Runway Safety Area and Runway Object Free Area.
2. Realignment of Carey Ave must be completed prior to Runway 12R-30L construction.
3. Temporarily rename existing Taxiways C and D due to construction of new parallel Taxiways C and D in prior phase.

LEGEND

- Existing Taxiway Designator
- Ultimate Taxiway Designator
- Airport Property Line
- Ultimate Road
- Ultimate Pavement Removal

Allen Ln
Valley Dr
W Cheyenne Ave
Runway 7/25 (Ult 8/26)
Thunderbird Field Rd
W Evans Ave
N Simmons St
Citizen Ave
Sky Haven Dr
Runway 12L/30R (4,300' x 75')
Runway 12R/30L
N Decatur Blvd
574
N Rancho Dr
Airport Dr
Perimeter Rd
W Carey Ave
W Lake Mead Blvd

SCALE IN FEET
0
800

Photo: Google Earth 04/2023

DRAFT - FOR DISCUSSION PURPOSES ONLY

The Carey Avenue Realignment Connection alignment shown on this exhibit is strictly conceptual and would only be considered if the Clark County Department of Aviation (CCDOA) secures any required easement(s) on a voluntary basis from the adjacent property owner(s). CCDOA has other conceptual alignment options that remain entirely within CCDOA-owned property. Nothing in this exhibit shall be construed as a commitment to acquire any property interest by condemnation. This conceptual exhibit does not grant, reserve, or imply any present or future property rights or limitations on current use.

Figure 6.2
PHASE 2 - REROUTE CAREY AVENUE

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6.1.3 PHASE 3 – RUNWAY 12R-30L

Phase 3 begins the relocation of Runway 12R-30L and entails shifting the runway 160 feet to the east to establish a 400-foot separation distance from the existing Taxiway B centerline. This is the minimum separation distance for runway design code (RDC) D-III-5000 standards. Engineered Material Arresting System (EMAS) beds will be added at both ends of the relocated runway to provide an added operational safety buffer and to reduce safety area requirements off the ends of the runway (RSA/ROFA extends 600 feet rather than 1,000 feet). Existing Taxiway D and portions of Taxiway A will be demolished in this phase and new connectors will be constructed between Taxiway B and the ultimate Taxiway C.

Key notes for this phase include:

1. New Taxiway J connectors to Taxiway B must be completed prior to the closure of Taxiway A to maintain a taxi route to Runways 12L-30R and 25.

2. Taxiway B will need to be closed while construction of the Runway 12R-30L taxiway connectors occurs within the Taxiway B object free area (TOFA). Aircraft will need to be rerouted along the apron taxilane during this time.

3. A portion of Runway 7-25 must be closed during this phase when construction of the new Runway 12R-30L occurs within the RSA. A temporary Runway 7 threshold displacement can be put in place so that a portion of the runway can remain active during construction.

Phase 3 is depicted on **Figure 6.3**. The OPC for Phase 3 is $48.0 million dollars.

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NOTES

1. New Taxiway J Connection to Taxiway B must be completed prior to closure of Taxiway A to maintain taxi route to Runways 12L-30R and 25.
2. Taxiway B will need to be closed while construction of Runway 12R-30L taxiway connectors are within the Taxiway B Object Free Area. Reroute aircraft along apron taxilane during this time.
3. Runway 7-25 must be closed during a portion of this phase when construction of new Runway 12R-30L is within the Runway Safety Area.

LEGEND

- Existing Taxiway Designators
- Ultimate Taxiway Designators
- Airport Property Line
- Ultimate Airport Property Line
- Ultimate Runway Pavement
- Ultimate Taxiway Pavement
- Ultimate Pavement Removal
- EMAS (Engineered Material Arresting System) Beds

Allen Ln
Valley Dr
W Cheyenne Ave
N Decatur Blvd
574
N Rancho Dr
Runway 7/25 (Ult 8/26)
Runway 12L/30R (4,300' x 75')
Runway 12R/30L(6,860' x 100')
Thunderbird Field Rd
Sky Haven Dr
W Evans Ave
Citizen Ave
N Simmons St
Airport Dr
Perimeter Rd
W Carey Ave
W Lake Mead Blvd
See Note 2
See Note 1

SCALE IN FEET
0
800
Photo: Google Earth 04/2023

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Figure 6.3
PHASE 3 - RUNWAY 12R-30L

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6.1.4 PHASE 4 – RUNWAY 7-25 AND TAXIWAY F

The fourth and final phase involves several taxiway improvements to correct non-standard geometry and hot spots. This includes the removal of existing taxiway pavement near the Runway 7 threshold to mitigate Hot Spot 1, removal of acute-angled connectors from Runway 7-25 to Taxiway A, and extension of Taxiway B to the ultimate Runway 12R end. Taxiway F, the ultimate north parallel taxiway serving Runway 7-25, is also planned to be constructed during this phase. New holding aprons are also planned to be established along Taxiway A and Taxiway F near the Runway 25 threshold.

Key notes for this phase include:

1. Runway 7-25 and Taxiway A will need to be closed temporarily while taxiway work occurs within the RSA/ROFA/TOFA.

Phase 4 is depicted on **Figure 6.4**. The OPC for Phase 4 is $12.0 million dollars.

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NOTES

1. Taxiway A will be closed only during portions of this phase where taxiway work is within the Object Free Area.

LEGEND

- Existing Taxiway Designators
- Ultimate Taxiway Designators
- Airport Property Line
- Ultimate Property Line
- Ultimate Taxiway Pavement
- Ultimate Pavement Removal
- Temporarily Closed Pavement

Runway 12L/30R (4,300' x 75')

Runway 12R/30L(6,860' x 100')

Runway 7/25 (Ult 8/26) (5,005' x 75')

Allen Ln
Valley Dr
W Cheyenne Ave
N Decatur Blvd
574
N Rancho Dr
Airport Dr
Perimeter Rd
Thunderbird Field Rd
Sky Haven Dr
W Evans Ave
Citizen Ave
N Simmons St
W Carey Ave
W Lake Mead Blvd

SCALE IN FEET
0 800
Photo: Google Earth 04/2023

DRAFT - FOR DISCUSSION PURPOSES ONLY

The Carey Avenue Realignment Connection alignment shown on this exhibit is strictly conceptual and would only be considered if the Clark County Department of Aviation (CCDOA) secures any required easement(s) on a voluntary basis from the adjacent property owner(s). CCDOA has other conceptual alignment options that remain entirely within CCDOA-owned property. Nothing in this exhibit shall be construed as a commitment to acquire any property interest by condemnation. This conceptual exhibit does not grant, reserve, or imply any present or future property rights or limitations on current use.

Figure 6.4
PHASE 4 - RUNWAY 7-25 AND TAXIWAY F

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6.2 ENVIRONMENTAL CLEARANCE STRATEGIES

Some projects identified in the recommended development concept and Capital Improvement Program (CIP) will require environmental documentation. The level of documentation necessary for each project **must be determined** in consultation with the FAA and NDOT. There are three major levels of environmental review to be considered under the *National Environmental Policy Act* (NEPA) that include a categorical exclusion (CatEx), Environmental Assessment (EA), and Environmental Impact Statement (EIS). Guidance on what level of documentation is required for a specific project is provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

The *FAA Reauthorization Act of 2024* has changed and expanded upon guidelines for the current environmental review process through Section 783 and Section 788. Section 783 expands environmental review requirements to include airport projects such as terminal development projects and all airport capacity projects (not just at congested airports). Section 788 establishes two NEPA categorical exclusions for: 1) projects for which the airport receives less than $6 million of federal funds and do not involve extraordinary circumstances or special purpose laws and, 2) airport projects which involve the repair or reconstruction of any airport facility, runway, taxiway or similar structure(s) that are damaged as a result of a declared disaster or emergency.

6.2.1 ENVIRONMENTAL OVERVIEW SUMMARY OF THE FOUR PROPOSED DEVELOPMENT PHASES

Table 6.1 lists the future development projects previously detailed and the most likely NEPA documentation that might be required by the FAA. The proposed improvements outlined in **Figure 6.1 - Figure 6.4** involve connected actions related to the relocation of Runway 12L-30R and Runway 12R-30L,[1] and could be evaluated in terms of NEPA compliance using a programmatic environmental assessment (EA). Ultimately, the FAA will decide what level of NEPA documentation will be required for each project.

Table 6.1 | Anticipated Environmental Review for Proposed Development Projects

Recommended Project	Suggested Initial NEPA Action	Potential Areas of Concern
Phase 1 – Proposed Projects		
Relocate Segmented Circle and Lighted Windcone	Programmatic EA	• None
Relocate Runway 12L/30R and Taxiways C and D		• Noise and Noise-Compatible Land Use • Visual Effects (Light Emissions) • Floodplains
Phase 2 – Proposed Projects		
Acquire Carey Ave Property – 9.2 acres	Programmatic EA (see Phase 1)	• Noise and Noise-Compatible Land Use
Construct Carey Ave Realignment		• Visual Resources/Visual Character

(Continues on next page)

[1] Connected actions are defined as projects that 1) automatically trigger other actions; 2) projects that cannot occur unless other actions are taken prior or simultaneously to the project; or 3) projects that are interdependent parts of a larger project and may depend on the larger project for justification of the smaller actions for the project.

Table 6.1 | Anticipated Environmental Review for Proposed Development Projects (continued)

Recommended Project	Suggested Initial NEPA Action	Potential Areas of Concern
Phase 3 – Proposed Projects		
Relocate Runway 12R/30L	Programmatic EA (see Phase 1)	• Noise and Noise-Compatible Land Use • Visual Effects (Light Emissions and Visual Resources/Character) • Floodplains
Phase 4 – Proposed Projects		
Taxiway Improvements and Hot Spot Mitigation	Programmatic EA (see Phase 1)	• Noise and Noise-Compatible Land Use • Floodplains • Wetlands
Construct Taxiway F		• Noise and Noise-Compatible Land Use • Wetlands
Construct Holding Apron on Taxiway A		• Noise and Noise-Compatible Land Use • Wetlands

Note:
The level of environmental documentation will ultimately be decided upon by the FAA.

6.3 CAPITAL IMPROVEMENT PROGRAM

Table 6.2 summarizes the airport's CIP by phase. Estimated capital expenditures total approximately $98.35 million (in 2024 dollars) for all phases combined. All projects are considered eligible for FAA Airport Improvement Program (AIP) or Bipartisan Infrastructure Law (BIL) funds. Significant FAA participation will be required to accomplish the projects proposed in this study. While all projects are considered eligible, there is no guarantee the FAA funding will be available. CCDOA will likely need to seek discretionary funding to supplement its entitlement funds. If discretionary funding is not available, the CCDOA may be required to provide more matching funds or to pool entitlement money from its system of airports to support these projects.

Future hangar area developments, which are assumed to be funded by private entities, have been excluded from the CIP costs.

Table 6.2 | Summary of Cost Estimates by Phase and Funding Sources

Project Phases	Phase Cost	FAA Grants (AIP/BIL)	Local Funding
Phase 1 – Runway 12L-30R Relocation and Parallel Taxiways C and D	$31,000,000	$27,900,000	$3,100,000
Phase 2 – Realign Carey Avenue	$27,515,000	$24,763,500	$2,751,500
Phase 3 – Runway 12R-30L Relocation and Taxiway Improvements	$48,000,000	$43,200,000	$4,800,000
Phase 4 – Runway 7-25 and Taxiway F	$12,000,000	$10,800,000	$1,200,000
Totals:	**$118,515,000**	**$106,663,500**	**$11,851,500**

Notes:
AIP = Airport Improvement Program
BIL = *Bipartisan Infrastructure Law*

Source: Cost estimates prepared by HNTB

6.4 MASTER PLAN IMPLEMENTATION

To implement the master plan recommendations, it is key to recognize that planning is a continuous process and does not end with the approval of this document. The airport should continue to monitor and measure its various demand indicators. The issues this master plan is based upon will remain valid for several years. The primary goal is for VGT to best serve the air transportation needs of the region while achieving economic self-sufficiency.

The CIP and phasing program presented will change over time. An effort has been made to identify and prioritize these projects that require federal grant funding; nevertheless, the airport and the FAA review the five-year CIP on an annual basis.

The primary value of this study lies in keeping the issues and objectives at the forefront of the minds of decision-makers. In addition to adjustments in aviation demand, decisions on when to undertake the improvements recommended in this master plan will impact how long the plan remains valid. The format of this plan reduces the need for formal and costly updates by allowing for simple adjustments to the timing of project implementation. Updates can be made by airport management, thereby improving the plan's effectiveness. Nevertheless, airports are typically encouraged to update their master plans every seven to 10 years, or sooner if significant changes occur in the interim.

In summary, the planning process requires the CCDOA to consistently monitor the progress of the airport. The information obtained from continually monitoring activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.